

Well Name: EMERALD FEDERAL COM	Well Location: T19S / R33E / SEC 6 / LOT 7 / 32.683046 / -103.707233	County or Parish/State: LEA / NM
Well Number: 502H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0077002	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002550995	Operator: AVANT OPERATING LLC	

Notice of Intent

Sundry ID: 2798636

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 07/02/2024	Time Sundry Submitted: 03:28
Date proposed operation will begin: 07/02/2024	

Procedure Description: Avant Operating, LLC requests to move the SHL & BHL from what was originally permitted. Please see below updated footage calls, as well as updated plat & directional surveys to reflect this change. The dedicated acreage of this well will also be updated to 1302.98 total Ac. Old SHL is 350' FSL & 1220' FWL. New SHL is 350' FSL & 1210' FWL. Old BHL is 100' FNL & 1980 FWL. New BHL is 100' FNL & 1254' FWL.

NOI Attachments

Procedure Description

Emerald_Federal_Com_502H_Sundry_Change_Attachments_20240916145254.pdf

Received by OCD: 9/17/2024 6:12:01 PM

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Conditions of Approval

Additional

6_19_33_Sundry_ID_2798636_Emerald_Federal_Com_502H_Lea_NM0077002_AVANT_OPERATING_LLC_13_22g_2_27_2024_LV_20240917082140.pdf
Emerald_Federal_Com_502H_Dr_COA_20240917082140.pdf

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: MEGHAN TWELE	Signed on: SEP 16, 2024 02:53 PM
Name: AVANT OPERATING LLC	
Title: Contract Regulatory Analyst	
Street Address: 1515 WYNKOOP ST SUITE 700	
City: DENVER	State: CO
Phone: (720) 339-6880	
Email address: MTWELE@OUTLOOK.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Approved	Disposition Date: 09/17/2024
Signature: Chris Walls	

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	11. Country or Parish, State

SUBMIT IN TRIPLICATE - Other instructions on page 2	
1. Type of Well	
☐ Oil Well ☐ Gas Well ☐ Other	
2. Name of Operator	
3a. Address	3b. Phone No. (include area code)
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)	

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)	Title
Signature	Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: LOT 7 / 350 FSL / 1220 FWL / TWSP: 19S / RANGE: 33E / SECTION: 6 / LAT: 32.683046 / LONG: -103.707233 (TVD: 0 feet, MD: 0 feet)

PPP: SESW / 0 FNL / 1982 FWL / TWSP: 19S / RANGE: 33E / SECTION: 31 / LAT: 32.69662 / LONG: -103.70478 (TVD: 9700 feet, MD: 10106 feet)

BHL: NENW / 100 FSL / 1980 FWL / TWSP: 18S / RANGE: 33E / SECTION: 31 / LAT: 32.710871 / LONG: -103.70428 (TVD: 9700 feet, MD: 19904 feet)

CONFIDENTIAL

6-19-33 Sundry ID 2798636 Emerald Federal Com 502H Lea NM0077002 AVANT OPERATING LLC 13-22g 2-27-2024 LV

Emerald Federal Com 502H

13 3/8		surface csg in a		17 1/2		inch hole.		Design Factors				Surface		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight		
"A"	54.50		j 55	ltc	6.35	1.63	1.06	1,485	4	1.91	3.07	80,933		
"B"				ltc				0				0		
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,270												80,933		
Tail Cmt does not circ to sfc.												80,933		
Totals: 1,485														
Comparison of Proposed to Minimum Required Cement Volumes														
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist		
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg		
17 1/2	0.6946	865	1521	1032	47	9.00	1436	2M				2.06		
Site plot (pipe racks 3 or 4) as per O.D. 1.31/D 3.1 not found														

9 5/8		casing inside the		13 3/8		Design Factors				Int 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00		j 55	ltc	2.48	0.99	0.82	5,268	2	1.48	1.79	210,720
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 474								Totals:	5,268			210,720
The cement volume(s) are intended to achieve a top of 0								ft from surface or a 1485		overlap.		
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
12 1/4	0.3132	1265	2239	1723	30	9.50	2662	3M				0.81
r D V Tool(s):								sum of sx	Σ CuFt	Σ%excess		
t by stage % :								1265	2239	30		
Class 'C' tail cmt yld > 1.35												
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.75, b, c, d All > 0.70, OK.												

5 1/2		casing inside the		9 5/8		Design Factors				Prod 1		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00		p 110	gbcd	3.29	2.31	2.63	19,968	3	4.75	4.17	399,360
"B"								0				0
"C"								0				0
"D"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,141								Totals:	19,968			399,360
The cement volume(s) are intended to achieve a top of								5068	ft from surface or a		200	overlap.
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE				Min Dist Hole-Cplg
8 3/4	0.2526	3545	6156	3765	63	9.50						1.23
Class 'C' tail cmt yld > 1.35												

#N/A											
0	5 1/2			Design Factors				<Choose Casing>			
Segment	#/ft	Grade	Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"			0.00				0				0
"B"			0.00				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	0			0
Cmt vol calc below includes this csg, TOC intended							#N/A	ft from surface or a	#N/A		overlap.
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg
0		#N/A	#N/A	0	#N/A						
#N/A Capitan Reef est top XXXX.											

**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Avant Operating LLC
LEASE NO.:	NMNM0077002
LOCATION:	Section 6, T.19 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico ▼

WELL NAME & NO.:	Emerald Federal Com 502H
BOTTOM HOLE FOOTAGE	100'/N & 1254'/W
ATS/API ID:	30-025-50995
APD ID:	10400084369
Sundry ID:	2798636

COA

H2S	Yes		
Potash	None	None	
Cave/Karst Potential	Low		
Cave/Karst Potential	☐ Critical		
Variance	☒ None	☒ Flex Hose	☒ Other
Wellhead	Conventional and Multibowl		
Other	☐ 4 String	Capitan Reef None	☐ WIPP
Other	Pilot Hole None	☐ Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	☐ Water Disposal/Injection	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry	Waste Prevention None	
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately 1485 feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record),

or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke

manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be

initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and

disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Long Vo (LVO) 9/17/2024

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3480 Fax: (505) 476-3482

☐ AMENDED REPORT

¹ API Number 30-025-50995		² Pool Code 13160	³ Pool Name CORBIN; BONE SPRING, SOUTH
⁴ Property Code 335608	⁵ Property Name EMERALD FEDERAL COM		⁶ Well Number 502H
⁷ OGRID No. 330396	⁸ Operator Name AVANT OPERATING, LLC		⁹ Elevation 3674

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	6	19 S	33 E	LOT 7	350	SOUTH	1210	WEST	LEA

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	31	18 S	33 E	LOT 1	100	NORTH	1254	WEST	LEA

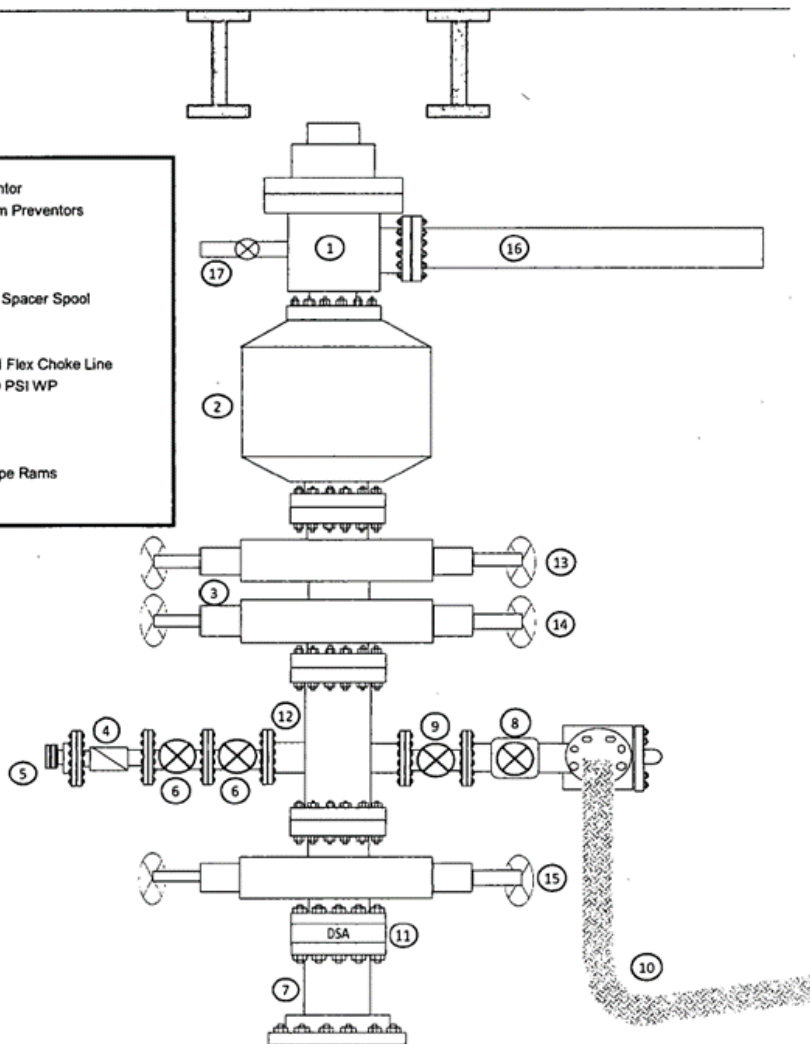
¹⁸ Dedicated Acres	¹⁹ Joint or Infill	²⁰ Consolidation Code	²¹ Order No.
1302.98			R-23267

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



Avant Natural Resources 5M BOP Diagram

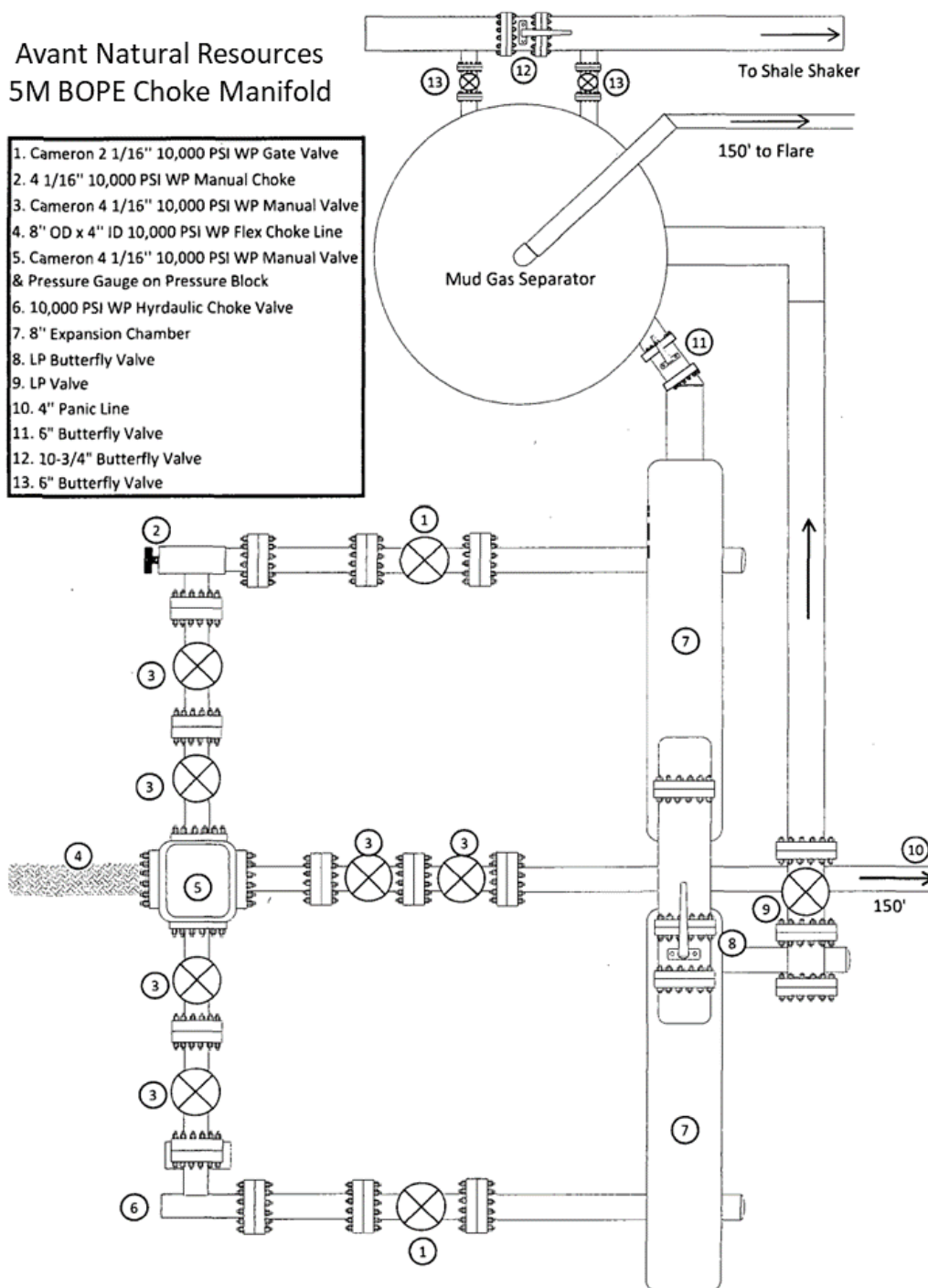
1. 13 5/8" Rotating Head
2. NOV 13 5/8" 5,000 PSI WP GK Annular Preventor
3. 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
4. 2 1/16" - 10,000 PSI WP Check Valve
5. 10,000 PSI WP - 1502 Union to kill line
6. 2 1/16" - 10,000 PSI WP Manual Valves
7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
8. 4 1/16" 10,000 PSI WP HCR Valve
9. 4 1/16" 10,000 PSI WP Manual Valve
10. 6" OD x 3" ID 10,000 PSI WP Steel Armoured Flex Choke Line
11. DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
12. Mud Cross - 13 5/8" 10,000 PSI WP
13. Blind Rams
14. Pipe Rams
15. 13 5/8" Cameron Type "U" 10,000 PSI WP Pipe Rams
16. Flow Line
17. 2" Fill Line



Choke Manifold Diagram

Avant Natural Resources
5M BOPE Choke Manifold

1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
2. 4 1/16" 10,000 PSI WP Manual Choke
3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
6. 10,000 PSI WP Hydraulic Choke Valve
7. 8" Expansion Chamber
8. LP Butterfly Valve
9. LP Valve
10. 4" Panic Line
11. 5" Butterfly Valve
12. 10-3/4" Butterfly Valve
13. 6" Butterfly Valve



Equipment

A minimum 5M system will be used. The minimum blowout preventer equipment (BOPE) shown in the BOP Diagram will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer, and an annular preventer (5000-psi WP). Both units will be hydraulically operated, and the ram-type will be equipped with blind rams on top and drill pipe rams on bottom. All BOPE will be tested in accordance with 43 CFR 3172.

Variance Request

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line). Co-flex line will be tested in accordance with highest BOP test pressures (5000 psi) before drilling out of surface casing and (5000 psi) before drilling out of intermediate casing. Pressure tests will be charted for records. The manufacturers hydrostatic test report will be kept on location for inspection.

Testing Procedure

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000 (high) / 250 (low) psig and the annular preventer to 3500 (high) / 250 (low) psig by an independent service company. Test charts will always be kept on location.

Surface casing will be tested to 1500 psi for 30 minutes. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000 (high) / 250 (low) psig and the annular preventer to 3500 (high) / 250 (low) psig by an independent service company. Test charts will always be kept on location.

Intermediate casing will be tested to 1500 psi for 30 minutes. A solid steel body pack-off will be used after running and cementing the intermediate casing. After installation, pack-off and lower flange will be pressure tested to 5000 psi.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe. This pressure test will be repeated at least once every 30 days, as per 43 CFR 3172.

Kelly cock will always be in the drill string. Full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will always be on the rig floor.

The multi-bowl wellhead will be installed by a third-party welder while being monitored by the vendors representative.

All BOP equipment will be tested using a conventional test plug - not a cup or J-packer type. Both the surface and intermediate casing strings will be tested as per 43 CFR 3172. to at least 0.22 psi/ft or 1500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield.

AFE: 0

API:

REGULATORY: NMOCD

PERMIT #

RIG: H&P 460

KB: 3700.5 (26.5')

GL: 3674'



Emerald Federal Com 502H

Bone Spring
Lea County, NM

Sec. 6, T-19S, R-33E; 350 FSL, 1210 FWL

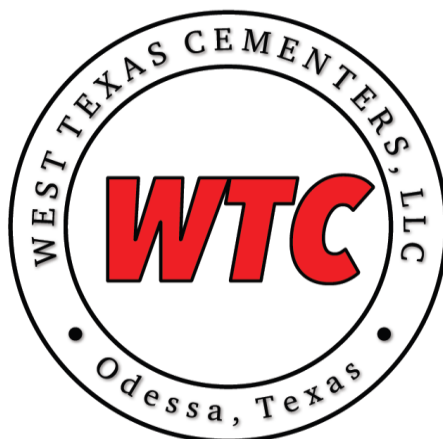
SHL: Lat: 32.6830462, Long: -103.7072654 (NAD83)

HOLE SIZE	MD	FORMATION	TVD	MUD	CASING	CEMENT	SPECIAL INSTRUCTIONS
	120	20" Conductor	120	SPUD MW	13 3/8 "	LEAD: 12.8 PPG Top of Lead: 0 50% Excess	Circ cement to surface is a NMOCD requirement
17 1/2 "	1,460	Rustler	1,460	8.4 ppg	54.5# J-55 LTC	Top of Tail: 1185'	Casing must be set 25' into the Rustler
	1,485	SURF CSG PT	1,485	Fresh 9 ppg	+/- 12 Bowsprings 1 joint shoe track	TAIL: 14.8 PPG 20% Excess	MUD: Fresh water only
12 1/4 "	1,754	Solado	1,754	DRLOUT MW	9 5/8 "	LEAD: 11 PPG Top of Lead: 0' 50% excess	Circ cement to surface is a NMOCD requirement
	3,461	Yates	3,453	9.5 ppg	40# J-55 LTC	TAIL: 14.8 PPG Top of Tail: 4214' 20% Excess	
	4,747	Capitan Reef	4,730	Cut Brine			
	5,168	Cherry Canyon	5,151	TD MW	+/- 9 Bowsprings 1 joint shoe track		
8 3/4 " VERTICAL	5,268	INTRM CSG PT	5,251	9.5 ppg			
	5,785	Brushy Canyon	5,768	DRLOUT MW			
	7,451	Bone Spring	7,434	9.2 ppg			
	8,189	Avalon	8,172	Cut Brine			
8 3/4 " CURVE	8,744	1st BS Sand	8,727	KOP MW			
	9,274	KOP	9,257	9.5 ppg	EOC	Float collar @ KOP	
	9,311	2nd BS Sand	9,294	Cut Brine	Lat MW 9.2 ppg	OBM	
	10,024	EOC	9,734	9.5	TD MW 9.2 ppg		
12°/ 100'				WET SHOE			
EOC VS = 332'				Lat. Azi = VS Azi. = 359.6°			
				Est BHST = 162°F, Est BHCT = 145°F			
8 3/4 " LATERAL	MD	INC	INC	DIRECTIONAL PLAN	5 1/2 "	LEAD: 10.7 PPG Top of Lead: 0 50% Excess	BHL: 100 FNL, 1254 FWL
				ANNOTATION	20# P-110 HC GBCD	TAIL: 14.8 PPG Top of Tail: 9274 20% Excess	Expected Btm Hole Pressure 4672.32 psi
				1 15' pup joints			
				2 20' Marker Jts			
				+/- 33 Bowsprings			
				+/- 27 Doublebows			
				+/- 236 Solid Bodies			
				All aqueous fluids (spacer and disp) left inside or outside of pipe must have biocide & corrosion inhibitor			

Preliminary

DIRECTIONS TO LOCAITON:

PROPOSAL#: 240625103454-A



CEMENT PROCEDURE & PROPOSAL

PREPARED FOR:

Mr. Braden Harris

EMAIL: braden@avantnr.com

PHONE NUMBER: 406-600-3310

Avant Natural Resources

Emerald Federal Com #502H

Lea County, NM

Rig: H&P 460

Service Point

Odessa

1400 S JBS Parkway Odessa, TX 79766

432-701-8955

Technical Writer

Jonathan Smith

jonathan@wtcementers.com

432-701-3719

WTC Representative

Jon Reynolds

jon@wtcementers.com

432-257-1234

.Disclaimer Notice:

The ability of West Texas Cementers to complete this work is subject to the availability of the raw materials required to complete the job.

This information is presented in good faith, but no warranty is given by and West Texas Cementers LLC assumes no liability for advice or recommendations made concerning results to be obtained from the use of any product or service. The results given are estimates based on calculations produced by a computer model including various assumptions on the well, reservoir and treatment. The results depend on input data provided by the Operator and estimates as to unknown data and can be no more accurate than the model, the assumptions and such input data. The information presented is WTC LLC best estimate of the actual results that may be achieved and should be used for comparison purposes rather than absolute values. The quality of input data, and hence results, may be improved through the use of certain tests and procedures which West Texas Cementers LLC can assist in selecting. The Operator has superior knowledge of the well, the reservoir, the field and conditions affecting them. If the Operator is aware of any conditions whereby a neighboring well or wells might be affected by the treatment proposed herein it is the Operator's responsibility to notify the owner or owners of the well or wells accordingly. Prices quoted are estimates only and are good for 30 days from the date of issue. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Freedom from infringement of patents of West Texas Cementers LLC or others is not to be inferred.

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6/25/2024 10:39

VERSION: v0.29b

Avant Natural Resources
Emerald Federal Com #502H
Lea County, NM
Rig: H&P 460

Surface



PROPOSAL#: 240625103454-A

WELL INFORMATION						
MUD	8.4# Fresh Water					
PREVIOUS PIPE	20" 94# CSG to 120					
OPEN HOLE	17.5" OH to 1485					
CASING/INJECTION	13.375" 54.5# J-55/LTC to 1485					
MD	1485					
EST BHST/BHCT	92-F / 85-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.					
VOLUMES						
FLUID NAME	LENGTH	OD	ID	XS	FACTOR	VOLUME
	(ft)	(in.)	(in.)	(%)	(bbl/ft)	(bbl)
Lead	120	19.124	13.375		0.1815	21.8
Lead	1065	17.5	13.375	50%	0.1856	197.6
Tail	300	17.5	13.375	20%	0.1485	44.5
SHOE JOINT	40	13.375	12.615		0.1546	6.2
FLUIDS						
SPACER						
Fresh Water						
VOLUME	20-bbl					
Lead						
35% B_Poz+65% Class C+6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A						
VOLUME	650-SX				Slurry Volume: 220-bbls	
DENSITY	12.8-ppg				Mix Water Required: 158-bbls	
YIELD	1.9-cf/sx					
MIX WATER	10.17-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources
Emerald Federal Com #502H
Lea County, NM
Rig: H&P 460

Surface



PROPOSAL#: 240625103454-A

Tail		
100% Class C+1% CaCl2+0.005GPS NoFoam V1A		
VOLUME	215-SX	Slurry Volume: 50.9-bbls
DENSITY	14.8-ppg	Mix Water Required: 33-bbls
YIELD	1.33-cf/sx	
MIX WATER	6.34-gps	
TOP OF CEMENT	1185-ft	
EXCESS	20%	
DISPLACEMENT		
Displacement		
VOLUME	223.4-bbl	

Avant Natural Resources
Emerald Federal Com #502H
Lea County, NM
Rig: H&P 460

Intermediate



PROPOSAL#: 240625103454-A

WELL INFORMATION						
MUD	9.5# Cut Brine					
PREVIOUS PIPE	13.375" 54.5# CSG to 1485					
OPEN HOLE	12.25" OH to 5268					
CASING/INJECTION	9.625" 40# J-55/LTC to 5268					
MD	5268					
TVD	5251					
EST BHST/BHCT	123-F / 107-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	1485	12.615	9.625		0.0646	95.9
Lead	2729	12.25	9.625	50%	0.0837	228.3
Tail	1054	12.25	9.625	20%	0.0669	70.5
SHOE JOINT	40	9.625	8.835		0.0758	3.0
FLUIDS						
SPACER						
Fresh Water						
VOLUME	25-bbl					
Lead						
35% B_Poz+65% Class C+6% Gel+5% SALT+0.5% R-1300+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A						
VOLUME	960-SX			Slurry Volume: 324.9-bbls		
DENSITY	12.8-ppg			Mix Water Required: 233-bbls		
YIELD	1.9-cf/sx					
MIX WATER	10.18-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources
Emerald Federal Com #502H
Lea County, NM
Rig: H&P 460

Intermediate



PROPOSAL#: 240625103454-A

Tail		
	100% Class C+5% SALT+0.005GPS NoFoam V1A	
VOLUME	305-SX	Slurry Volume: 73.9-bbls
DENSITY	14.8-ppg	Mix Water Required: 48-bbls
YIELD	1.36-cf/sx	
MIX WATER	6.51-gps	
TOP OF CEMENT	4214-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	396.4-bbl	

Avant Natural Resources
Emerald Federal Com #502H
Lea County, NM
Rig: H&P 460

Production



PROPOSAL#: 240625103454-A

WELL INFORMATION						
MUD	9.2# OBM					
PREVIOUS PIPE	9.625" 40# CSG to 5268					
OPEN HOLE	8.75" OH to 19968					
CASING/INJECTION	5.5" 20# P-110 HC/GBCD to 19968					
MD	19968					
TVD	9734					
EST BHST/BHCT	211-F / 194-F (1.34-F/100-FT)					
KOP	9274					
NOTES	Standby charges start after WTC has been on location for more than 8-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	5268	8.835	5.5		0.0464	244.6
Lead	4006	8.75	5.5	50%	0.0675	270.3
Tail	10694	8.75	5.5	20%	0.0540	577.3
SHOE JOINT	80	5.5	4.778		0.0222	1.8
FLUIDS						
SPACER						
Wt. Spacer 38.01GPB Water+8PPB PolyScrub 4320+73.29PPB Barite+1GPB HoleScrub 4311+1PPB R-1300						
VOLUME	40-bbl					
DENSITY	9.7-ppg					
Lead						
100% ProLite+5PPS Plexcrete STE+2% SMS+0.65% R-1300+0.2% FL-24+3PPS Gilsonite+0.005GPS NoFoam V1A						
VOLUME	860-SX				Slurry Volume: 517.7-bbls	
DENSITY	10.7-ppg				Mix Water Required: 432-bbls	
YIELD	3.38-cf/sx					
MIX WATER	21.06-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources
Emerald Federal Com #502H
Lea County, NM
Rig: H&P 460

Production



PROPOSAL#: 240625103454-A

Tail		
50% B_Poz+50% Class H+5% SALT+0.05% RCKCAS-100+0.75% FR-5+0.5% FL-24+0.005GPS NoFoam V1A		
VOLUME	2685-SX	Slurry Volume: 578.6-bbls
DENSITY	14.5-ppg	Mix Water Required: 338-bbls
YIELD	1.21-cf/sx	
MIX WATER	5.28-gps	
TOP OF CEMENT	9274-ft	
EXCESS	20%	
DISPLACEMENT		
Fresh Water+ 0.25GPT Plexicide 24L+1GPT Corplex		
VOLUME	441-bbl	
DENSITY	8.34-ppg	

CHEMICAL DESCRIPTIONS		
CHEMICAL NAME	CODE	DESCRIPTION
B_Poz	WTC228	Poz - Fly Ash, Extender
Class H	WTC101	API Cement
Class C	WTC100	API Cement
M_Poz	WTC280	Poz - Fly Ash, Extender
ProLite		Blended Based Cement
Plexcrete SFA	WTC129	Cement Strength Enhancer
Gel	WTC102	Extender
Micro Crystal	WTC212	Cement Strength Enhancer
Micro Shell	WTC209	Cement Strength Enhancer
WTC1	WTC250	Extender
GB-52	WTC008	Microspheres, Extender
Plexcrete STE	WTC127	Cement Strength Enhancer
CSE-NP	WTC236	Cement Strength Enhancer
Gypsum	WTC111	Free Water Control, Extender
CaCl2	WTC112	Accelerator
SMS	WTC115	Free Water Control, Extender
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
R-1300	WTC201	Low Temperature Retarder
CRT-201	WTC278	Lignosulfonate Retarder
FR-5	WTC258	Lignosulfonate Retarder
C-37	WTC224	Dispersant, Friction Reducer
CFL-312	WTC265	Fluid Loss and Gas Migration Control
FL-24	WTC277	Fluid Loss (polymers/copolymers - 300-F max)
FL-17	WTC130	Fluid Loss and Gas Migration Control (400-F max)
MagBond	WTC271	Expanding Agent
Gilsonite	WTC003	Premium Lost Circulation Material, Free Water Control
Pol-E-Flake	WTC106	Lost Circulation Material
Web Seal	WTC133	Premium Fiber Lost Circulation Material
Zone Seal	WTC207	Premium Lost Circulation Material
NoFoam V1A	WTC105	Liquid Defoamer
Water		Fresh Water
PolyScrub 4320	WTC232	Spacer Gelling Agent
Barite	WTC116	Weighting Agent
HoleScrub 4311	WTC281	Surfactant
HoleScrub 4305	WTC213	Surfactant
HoleScrub 4308	WTC215	Surfactant
Soda Ash	WTC164	pH Control
R-1300	WTC201	Low Temperature Retarder
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
Sugar	WTC119	Retarder
R-33	WTC243	Lignosulfonate Retarder
Plexcide 24L	WTC166	Biocide
Corplex	WTC134	Corrosion Inhibitor
Clay Max	WTC096	KCL Substitute
Zone Seal	WTC207	Premium Lost Circulation Material

CASING DESIGN CRITERIA & LOAD CASE ASSUMPTIONS

SURFACE CASING:

SIZE (in)	SURFACE CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	JOINT STRENGTH (k-lbs)	DEPTHS
13.375"	54.5# J-55 LTC	10.05	9.894	3130	1580	629	700	0' – SCP'

Collapse: $DF_c = 1.25$

- Full internal evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of the planned cement slurries to planned depths and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

INTERMEIDATE CASING:

SIZE (in)	INTERMEDIATE CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	JOINT STRENGTH (k-lbs)	DEPTHS
9-5/8"	40# J-55 LTC	6.875	6.75	9470	7150	940	769	0' – ICP'

Collapse: $DF_c = 1.25$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be ran.
- Gas Kick Profile: Internal burst force at the shoe will be fracture pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be ran above that. External force will be equal to the mud gradient in which the casing will be ran.

- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be fracture pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

PRODUCTION CASING:

SIZE (in)	PRODUCTION CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT TENSION (k-lbs)	DEPTHS
5-1/2"	20# HCP-110 GBCD	4.778	4.653	12,640	12,200	641	6.300	641	0' – MD'

Collapse: $DF_C = 1.25$

- Partial Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran. Internal force equal to gas gradient over one-third of setting depth and mud gradient with which the next hole section will be ran below that.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be ran above that and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: 80% of burst casing test with an external force equal to the mud gradient in which the casing will be ran.
- Injection Down Casing: 9800 psi surface injection pressure plus an internal pressure gradient of with an external force equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

WELL DETAILS: Emerald Fed Com 502H

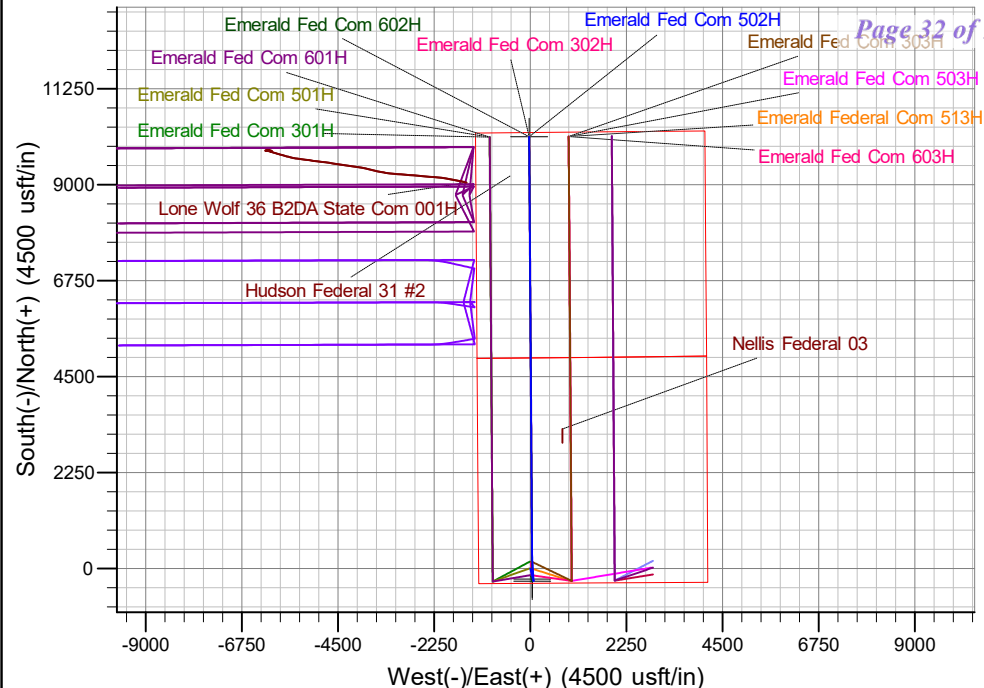
Ground Elev: 3674.0 KB: Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	612791.68	733960.19	32.683046	-103.707265

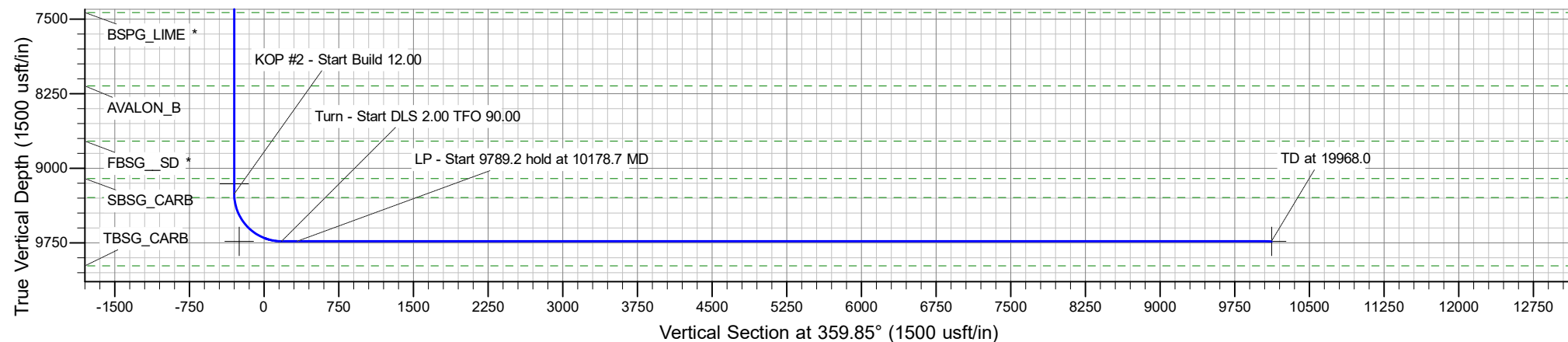
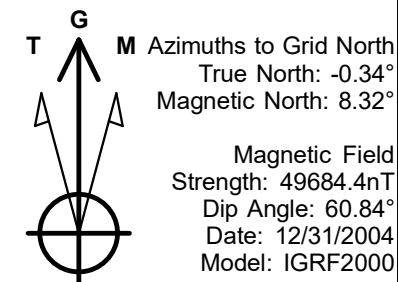
PROJECT DETAILS: Lea Co., NM (NAD 83)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 2.00
3	2330.3	6.61	165.73	2329.6	-18.4	4.7	2.00	165.73	-18.4	Start 2356.5 hold at 2330.3 MD
4	4686.8	6.61	165.73	4670.4	-281.2	71.5	0.00	0.00	-281.4	Start Drop -2.00
5	5017.1	0.00	0.00	5000.0	-299.6	76.2	2.00	180.00	-299.8	Start 4256.5 hold at 5017.1 MD
6	9273.6	0.00	0.00	9256.5	-299.6	76.2	0.00	0.00	-299.8	KOP #2 - Start Build 12.00
7	10023.6	90.00	356.50	9734.0	177.0	47.1	12.00	356.50	176.8	Turn - Start DLS 2.00 TFO 90.00
8	10178.7	90.00	359.60	9734.0	332.0	41.8	2.00	90.00	331.9	LP - Start 9789.2 hold at 10178.7 MD
9	19968.0	90.00	359.60	9734.0	10121.0	-26.1	0.00	0.00	10121.0	TD at 19968.0



Avant Operating, LLC

Lea Co., NM (NAD 83)

Emerald Pad 1

Emerald Fed Com 502H

OH

Plan: Plan 0.1

Standard Planning Report

24 June, 2024

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Project	Lea Co., NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Emerald Pad 1				
Site Position:		Northing:	612,951.58 usft	Latitude:	32.683486
From:	Lat/Long	Easting:	733,949.09 usft	Longitude:	-103.707299
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "		

Well	Emerald Fed Com 502H					
Well Position	+N/-S	0.0 usft	Northing:	612,791.68 usft	Latitude:	32.683046
	+E/-W	0.0 usft	Easting:	733,960.19 usft	Longitude:	-103.707266
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,674.0 usft
Grid Convergence:		0.34 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	8.66	60.84	49,684.36311900

Design	Plan 0.1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.85

Plan Survey Tool Program	Date	6/24/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	19,967.2 Plan 0.1 (OH)	B001Mb_MWD+HRGM	
			OWSG MWD + HRGM	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,330.3	6.61	165.73	2,329.6	-18.4	4.7	2.00	2.00	0.00	165.73	
4,686.8	6.61	165.73	4,670.4	-281.2	71.5	0.00	0.00	0.00	0.00	
5,017.1	0.00	0.00	5,000.0	-299.6	76.2	2.00	-2.00	0.00	180.00	
9,273.6	0.00	0.00	9,256.5	-299.6	76.2	0.00	0.00	0.00	0.00	
10,023.6	90.00	356.50	9,734.0	177.0	47.1	12.00	12.00	0.00	356.50	
10,178.7	90.00	359.60	9,734.0	332.0	41.8	2.00	0.00	2.00	90.00	
19,968.0	90.00	359.60	9,734.0	10,121.0	-26.1	0.00	0.00	0.00	0.00	LTP/BHL - Emerald F

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,460.0	0.00	0.00	1,460.0	0.0	0.0	0.0	0.00	0.00	0.00
RUSTLER									
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,754.0	0.00	0.00	1,754.0	0.0	0.0	0.0	0.00	0.00	0.00
SOLADO									
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
2,100.0	2.00	165.73	2,100.0	-1.7	0.4	-1.7	2.00	2.00	0.00
2,200.0	4.00	165.73	2,199.8	-6.8	1.7	-6.8	2.00	2.00	0.00
2,300.0	6.00	165.73	2,299.5	-15.2	3.9	-15.2	2.00	2.00	0.00
2,330.3	6.61	165.73	2,329.6	-18.4	4.7	-18.4	2.00	2.00	0.00
Start 2356.5 hold at 2330.3 MD									
2,400.0	6.61	165.73	2,398.8	-26.2	6.7	-26.2	0.00	0.00	0.00
2,500.0	6.61	165.73	2,498.1	-37.4	9.5	-37.4	0.00	0.00	0.00
2,600.0	6.61	165.73	2,597.5	-48.5	12.3	-48.5	0.00	0.00	0.00
2,700.0	6.61	165.73	2,696.8	-59.7	15.2	-59.7	0.00	0.00	0.00
2,800.0	6.61	165.73	2,796.1	-70.8	18.0	-70.8	0.00	0.00	0.00
2,900.0	6.61	165.73	2,895.5	-82.0	20.8	-82.0	0.00	0.00	0.00
3,000.0	6.61	165.73	2,994.8	-93.1	23.7	-93.2	0.00	0.00	0.00
3,100.0	6.61	165.73	3,094.2	-104.3	26.5	-104.3	0.00	0.00	0.00
3,200.0	6.61	165.73	3,193.5	-115.4	29.4	-115.5	0.00	0.00	0.00
3,300.0	6.61	165.73	3,292.8	-126.6	32.2	-126.6	0.00	0.00	0.00
3,400.0	6.61	165.73	3,392.2	-137.7	35.0	-137.8	0.00	0.00	0.00
3,461.2	6.61	165.73	3,453.0	-144.5	36.8	-144.6	0.00	0.00	0.00
YATES									
3,500.0	6.61	165.73	3,491.5	-148.9	37.9	-148.9	0.00	0.00	0.00
3,600.0	6.61	165.73	3,590.8	-160.0	40.7	-160.1	0.00	0.00	0.00
3,700.0	6.61	165.73	3,690.2	-171.1	43.5	-171.3	0.00	0.00	0.00
3,800.0	6.61	165.73	3,789.5	-182.3	46.4	-182.4	0.00	0.00	0.00
3,900.0	6.61	165.73	3,888.8	-193.4	49.2	-193.6	0.00	0.00	0.00
4,000.0	6.61	165.73	3,988.2	-204.6	52.0	-204.7	0.00	0.00	0.00
4,100.0	6.61	165.73	4,087.5	-215.7	54.9	-215.9	0.00	0.00	0.00
4,200.0	6.61	165.73	4,186.9	-226.9	57.7	-227.0	0.00	0.00	0.00
4,300.0	6.61	165.73	4,286.2	-238.0	60.5	-238.2	0.00	0.00	0.00
4,400.0	6.61	165.73	4,385.5	-249.2	63.4	-249.4	0.00	0.00	0.00

Planning Report

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Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,500.0	6.61	165.73	4,484.9	-260.3	66.2	-260.5	0.00	0.00	0.00	
4,600.0	6.61	165.73	4,584.2	-271.5	69.1	-271.7	0.00	0.00	0.00	
4,686.8	6.61	165.73	4,670.4	-281.2	71.5	-281.4	0.00	0.00	0.00	
Start Drop -2.00										
4,700.0	6.34	165.73	4,683.5	-282.6	71.9	-282.8	2.00	-2.00	0.00	
4,746.7	5.41	165.73	4,730.0	-287.3	73.1	-287.4	2.00	-2.00	0.00	
CAPITAN_REEF										
4,800.0	4.34	165.73	4,783.1	-291.6	74.2	-291.8	2.00	-2.00	0.00	
4,900.0	2.34	165.73	4,882.9	-297.3	75.6	-297.5	2.00	-2.00	0.00	
5,000.0	0.34	165.73	4,982.9	-299.6	76.2	-299.8	2.00	-2.00	0.00	
5,017.1	0.00	0.00	5,000.0	-299.6	76.2	-299.8	2.00	-2.00	0.00	
Start 4256.5 hold at 5017.1 MD										
5,100.0	0.00	0.00	5,082.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
5,168.1	0.00	0.00	5,151.0	-299.6	76.2	-299.8	0.00	0.00	0.00	
CHERRY_CNYN										
5,200.0	0.00	0.00	5,182.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,282.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,382.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,482.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,582.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,682.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
5,785.1	0.00	0.00	5,768.0	-299.6	76.2	-299.8	0.00	0.00	0.00	
BRUSHY_CANYON										
5,800.0	0.00	0.00	5,782.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,882.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,982.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,082.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,182.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,282.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,382.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,482.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,582.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,682.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,782.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,882.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,982.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,082.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,182.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,282.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,382.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,451.1	0.00	0.00	7,434.0	-299.6	76.2	-299.8	0.00	0.00	0.00	
BSPG_LIME *										
7,500.0	0.00	0.00	7,482.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,582.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,682.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,782.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,882.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,982.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,082.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
8,189.1	0.00	0.00	8,172.0	-299.6	76.2	-299.8	0.00	0.00	0.00	
AVALON_B										
8,200.0	0.00	0.00	8,182.9	-299.6	76.2	-299.8	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,282.9	-299.6	76.2	-299.8	0.00	0.00	0.00	

Planning Report

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Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,400.0	0.00	0.00	8,382.9	-299.6	76.2	-299.8	0.00	0.00	0.00
8,500.0	0.00	0.00	8,482.9	-299.6	76.2	-299.8	0.00	0.00	0.00
8,600.0	0.00	0.00	8,582.9	-299.6	76.2	-299.8	0.00	0.00	0.00
8,700.0	0.00	0.00	8,682.9	-299.6	76.2	-299.8	0.00	0.00	0.00
8,744.1	0.00	0.00	8,727.0	-299.6	76.2	-299.8	0.00	0.00	0.00
FBSG_SD *									
8,800.0	0.00	0.00	8,782.9	-299.6	76.2	-299.8	0.00	0.00	0.00
8,900.0	0.00	0.00	8,882.9	-299.6	76.2	-299.8	0.00	0.00	0.00
9,000.0	0.00	0.00	8,982.9	-299.6	76.2	-299.8	0.00	0.00	0.00
9,100.0	0.00	0.00	9,082.9	-299.6	76.2	-299.8	0.00	0.00	0.00
9,121.1	0.00	0.00	9,104.0	-299.6	76.2	-299.8	0.00	0.00	0.00
SBSG_CARB									
9,173.1	0.00	0.00	9,156.0	-299.6	76.2	-299.8	0.00	0.00	0.00
KOP - Emerald Fed Com 502H									
9,200.0	0.00	0.00	9,182.9	-299.6	76.2	-299.8	0.00	0.00	0.00
9,273.6	0.00	0.00	9,256.5	-299.6	76.2	-299.8	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
9,275.0	0.17	356.50	9,257.9	-299.6	76.2	-299.8	12.00	12.00	0.00
9,300.0	3.17	356.50	9,282.9	-298.9	76.2	-299.1	12.00	12.00	0.00
9,311.1	4.50	356.50	9,294.0	-298.1	76.1	-298.3	12.00	12.00	0.00
SBSG_SD									
9,325.0	6.17	356.50	9,307.8	-296.9	76.0	-297.0	12.00	12.00	0.00
9,350.0	9.17	356.50	9,332.6	-293.5	75.8	-293.7	12.00	12.00	0.00
9,375.0	12.17	356.50	9,357.1	-288.9	75.5	-289.1	12.00	12.00	0.00
9,400.0	15.17	356.50	9,381.4	-283.0	75.2	-283.2	12.00	12.00	0.00
9,425.0	18.17	356.50	9,405.4	-275.9	74.7	-276.0	12.00	12.00	0.00
9,450.0	21.17	356.50	9,428.9	-267.5	74.2	-267.6	12.00	12.00	0.00
9,475.0	24.17	356.50	9,452.0	-257.8	73.6	-258.0	12.00	12.00	0.00
9,500.0	27.17	356.50	9,474.5	-247.0	73.0	-247.2	12.00	12.00	0.00
9,525.0	30.17	356.50	9,496.4	-235.1	72.3	-235.2	12.00	12.00	0.00
9,550.0	33.17	356.50	9,517.7	-222.0	71.5	-222.1	12.00	12.00	0.00
9,575.0	36.17	356.50	9,538.3	-207.8	70.6	-208.0	12.00	12.00	0.00
9,600.0	39.17	356.50	9,558.1	-192.5	69.7	-192.7	12.00	12.00	0.00
9,625.0	42.17	356.50	9,577.0	-176.3	68.7	-176.4	12.00	12.00	0.00
9,650.0	45.17	356.50	9,595.1	-159.0	67.6	-159.2	12.00	12.00	0.00
9,675.0	48.17	356.50	9,612.3	-140.9	66.5	-141.1	12.00	12.00	0.00
FTP - Emerald Fed Com 502H									
9,700.0	51.17	356.50	9,628.4	-121.9	65.3	-122.0	12.00	12.00	0.00
9,725.0	54.17	356.50	9,643.6	-102.0	64.1	-102.2	12.00	12.00	0.00
9,750.0	57.17	356.50	9,657.7	-81.4	62.9	-81.6	12.00	12.00	0.00
9,775.0	60.17	356.50	9,670.7	-60.1	61.6	-60.3	12.00	12.00	0.00
9,800.0	63.17	356.50	9,682.6	-38.2	60.2	-38.3	12.00	12.00	0.00
9,825.0	66.17	356.50	9,693.2	-15.6	58.8	-15.8	12.00	12.00	0.00
9,850.0	69.17	356.50	9,702.7	7.5	57.4	7.3	12.00	12.00	0.00
9,875.0	72.17	356.50	9,711.0	31.0	56.0	30.9	12.00	12.00	0.00
9,900.0	75.17	356.50	9,718.1	55.0	54.5	54.8	12.00	12.00	0.00
9,925.0	78.17	356.50	9,723.8	79.2	53.0	79.1	12.00	12.00	0.00
9,950.0	81.17	356.50	9,728.3	103.8	51.5	103.7	12.00	12.00	0.00
9,975.0	84.17	356.50	9,731.5	128.5	50.0	128.4	12.00	12.00	0.00
10,000.0	87.17	356.50	9,733.4	153.4	48.5	153.3	12.00	12.00	0.00
10,023.6	90.00	356.50	9,734.0	177.0	47.1	176.8	12.00	12.00	0.00
Turn - Start DLS 2.00 TFO 90.00									
10,100.0	90.00	358.03	9,734.0	253.3	43.4	253.2	2.00	0.00	2.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,178.7	90.00	359.60	9,734.0	332.0	41.8	331.9	2.00	0.00	2.00	
LP - Start 9789.2 hold at 10178.7 MD										
10,200.0	90.00	359.60	9,734.0	353.2	41.6	353.1	0.00	0.00	0.00	
10,300.0	90.00	359.60	9,734.0	453.2	40.9	453.1	0.00	0.00	0.00	
10,400.0	90.00	359.60	9,734.0	553.2	40.2	553.1	0.00	0.00	0.00	
10,500.0	90.00	359.60	9,734.0	653.2	39.5	653.1	0.00	0.00	0.00	
10,600.0	90.00	359.60	9,734.0	753.2	38.9	753.1	0.00	0.00	0.00	
10,700.0	90.00	359.60	9,734.0	853.2	38.2	853.1	0.00	0.00	0.00	
10,800.0	90.00	359.60	9,734.0	953.2	37.5	953.1	0.00	0.00	0.00	
10,900.0	90.00	359.60	9,734.0	1,053.2	36.8	1,053.1	0.00	0.00	0.00	
11,000.0	90.00	359.60	9,734.0	1,153.2	36.1	1,153.1	0.00	0.00	0.00	
11,100.0	90.00	359.60	9,734.0	1,253.2	35.4	1,253.1	0.00	0.00	0.00	
11,200.0	90.00	359.60	9,734.0	1,353.2	34.7	1,353.1	0.00	0.00	0.00	
11,300.0	90.00	359.60	9,734.0	1,453.2	34.0	1,453.1	0.00	0.00	0.00	
11,400.0	90.00	359.60	9,734.0	1,553.2	33.3	1,553.1	0.00	0.00	0.00	
11,500.0	90.00	359.60	9,734.0	1,653.2	32.6	1,653.1	0.00	0.00	0.00	
11,600.0	90.00	359.60	9,734.0	1,753.2	31.9	1,753.1	0.00	0.00	0.00	
11,700.0	90.00	359.60	9,734.0	1,853.2	31.2	1,853.1	0.00	0.00	0.00	
11,800.0	90.00	359.60	9,734.0	1,953.2	30.5	1,953.1	0.00	0.00	0.00	
11,900.0	90.00	359.60	9,734.0	2,053.2	29.8	2,053.1	0.00	0.00	0.00	
12,000.0	90.00	359.60	9,734.0	2,153.2	29.1	2,153.1	0.00	0.00	0.00	
12,100.0	90.00	359.60	9,734.0	2,253.2	28.5	2,253.1	0.00	0.00	0.00	
12,200.0	90.00	359.60	9,734.0	2,353.2	27.8	2,353.1	0.00	0.00	0.00	
12,300.0	90.00	359.60	9,734.0	2,453.2	27.1	2,453.1	0.00	0.00	0.00	
12,400.0	90.00	359.60	9,734.0	2,553.2	26.4	2,553.1	0.00	0.00	0.00	
12,500.0	90.00	359.60	9,734.0	2,653.2	25.7	2,653.1	0.00	0.00	0.00	
12,600.0	90.00	359.60	9,734.0	2,753.2	25.0	2,753.1	0.00	0.00	0.00	
12,700.0	90.00	359.60	9,734.0	2,853.2	24.3	2,853.1	0.00	0.00	0.00	
12,800.0	90.00	359.60	9,734.0	2,953.2	23.6	2,953.1	0.00	0.00	0.00	
12,900.0	90.00	359.60	9,734.0	3,053.2	22.9	3,053.1	0.00	0.00	0.00	
13,000.0	90.00	359.60	9,734.0	3,153.2	22.2	3,153.1	0.00	0.00	0.00	
13,100.0	90.00	359.60	9,734.0	3,253.2	21.5	3,253.1	0.00	0.00	0.00	
13,200.0	90.00	359.60	9,734.0	3,353.2	20.8	3,353.1	0.00	0.00	0.00	
13,300.0	90.00	359.60	9,734.0	3,453.2	20.1	3,453.1	0.00	0.00	0.00	
13,400.0	90.00	359.60	9,734.0	3,553.2	19.4	3,553.1	0.00	0.00	0.00	
13,500.0	90.00	359.60	9,734.0	3,653.2	18.7	3,653.1	0.00	0.00	0.00	
13,600.0	90.00	359.60	9,734.0	3,753.2	18.1	3,753.1	0.00	0.00	0.00	
13,700.0	90.00	359.60	9,734.0	3,853.2	17.4	3,853.1	0.00	0.00	0.00	
13,800.0	90.00	359.60	9,734.0	3,953.2	16.7	3,953.1	0.00	0.00	0.00	
13,900.0	90.00	359.60	9,734.0	4,053.2	16.0	4,053.1	0.00	0.00	0.00	
14,000.0	90.00	359.60	9,734.0	4,153.2	15.3	4,153.1	0.00	0.00	0.00	
14,100.0	90.00	359.60	9,734.0	4,253.2	14.6	4,253.1	0.00	0.00	0.00	
14,200.0	90.00	359.60	9,734.0	4,353.2	13.9	4,353.1	0.00	0.00	0.00	
14,300.0	90.00	359.60	9,734.0	4,453.1	13.2	4,453.1	0.00	0.00	0.00	
14,400.0	90.00	359.60	9,734.0	4,553.1	12.5	4,553.1	0.00	0.00	0.00	
14,500.0	90.00	359.60	9,734.0	4,653.1	11.8	4,653.1	0.00	0.00	0.00	
14,600.0	90.00	359.60	9,734.0	4,753.1	11.1	4,753.1	0.00	0.00	0.00	
14,700.0	90.00	359.60	9,734.0	4,853.1	10.4	4,853.1	0.00	0.00	0.00	
14,800.0	90.00	359.60	9,734.0	4,953.1	9.7	4,953.1	0.00	0.00	0.00	
14,900.0	90.00	359.60	9,734.0	5,053.1	9.0	5,053.1	0.00	0.00	0.00	
15,000.0	90.00	359.60	9,734.0	5,153.1	8.3	5,153.1	0.00	0.00	0.00	
15,100.0	90.00	359.60	9,734.0	5,253.1	7.6	5,253.1	0.00	0.00	0.00	
15,200.0	90.00	359.60	9,734.0	5,353.1	7.0	5,353.1	0.00	0.00	0.00	
15,300.0	90.00	359.60	9,734.0	5,453.1	6.3	5,453.1	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,400.0	90.00	359.60	9,734.0	5,553.1	5.6	5,553.1	0.00	0.00	0.00	
15,500.0	90.00	359.60	9,734.0	5,653.1	4.9	5,653.1	0.00	0.00	0.00	
15,600.0	90.00	359.60	9,734.0	5,753.1	4.2	5,753.1	0.00	0.00	0.00	
15,700.0	90.00	359.60	9,734.0	5,853.1	3.5	5,853.1	0.00	0.00	0.00	
15,800.0	90.00	359.60	9,734.0	5,953.1	2.8	5,953.1	0.00	0.00	0.00	
15,900.0	90.00	359.60	9,734.0	6,053.1	2.1	6,053.1	0.00	0.00	0.00	
16,000.0	90.00	359.60	9,734.0	6,153.1	1.4	6,153.1	0.00	0.00	0.00	
16,100.0	90.00	359.60	9,734.0	6,253.1	0.7	6,253.1	0.00	0.00	0.00	
16,200.0	90.00	359.60	9,734.0	6,353.1	0.0	6,353.1	0.00	0.00	0.00	
16,300.0	90.00	359.60	9,734.0	6,453.1	-0.7	6,453.1	0.00	0.00	0.00	
16,400.0	90.00	359.60	9,734.0	6,553.1	-1.4	6,553.1	0.00	0.00	0.00	
16,500.0	90.00	359.60	9,734.0	6,653.1	-2.1	6,653.1	0.00	0.00	0.00	
16,600.0	90.00	359.60	9,734.0	6,753.1	-2.8	6,753.1	0.00	0.00	0.00	
16,700.0	90.00	359.60	9,734.0	6,853.1	-3.4	6,853.1	0.00	0.00	0.00	
16,800.0	90.00	359.60	9,734.0	6,953.1	-4.1	6,953.1	0.00	0.00	0.00	
16,900.0	90.00	359.60	9,734.0	7,053.1	-4.8	7,053.1	0.00	0.00	0.00	
17,000.0	90.00	359.60	9,734.0	7,153.1	-5.5	7,153.1	0.00	0.00	0.00	
17,100.0	90.00	359.60	9,734.0	7,253.1	-6.2	7,253.1	0.00	0.00	0.00	
17,200.0	90.00	359.60	9,734.0	7,353.1	-6.9	7,353.1	0.00	0.00	0.00	
17,300.0	90.00	359.60	9,734.0	7,453.1	-7.6	7,453.1	0.00	0.00	0.00	
17,400.0	90.00	359.60	9,734.0	7,553.1	-8.3	7,553.1	0.00	0.00	0.00	
17,500.0	90.00	359.60	9,734.0	7,653.1	-9.0	7,653.1	0.00	0.00	0.00	
17,600.0	90.00	359.60	9,734.0	7,753.1	-9.7	7,753.1	0.00	0.00	0.00	
17,700.0	90.00	359.60	9,734.0	7,853.1	-10.4	7,853.1	0.00	0.00	0.00	
17,800.0	90.00	359.60	9,734.0	7,953.1	-11.1	7,953.1	0.00	0.00	0.00	
17,900.0	90.00	359.60	9,734.0	8,053.1	-11.8	8,053.1	0.00	0.00	0.00	
18,000.0	90.00	359.60	9,734.0	8,153.1	-12.5	8,153.1	0.00	0.00	0.00	
18,100.0	90.00	359.60	9,734.0	8,253.1	-13.2	8,253.1	0.00	0.00	0.00	
18,200.0	90.00	359.60	9,734.0	8,353.1	-13.8	8,353.1	0.00	0.00	0.00	
18,300.0	90.00	359.60	9,734.0	8,453.1	-14.5	8,453.1	0.00	0.00	0.00	
18,400.0	90.00	359.60	9,734.0	8,553.0	-15.2	8,553.1	0.00	0.00	0.00	
18,500.0	90.00	359.60	9,734.0	8,653.0	-15.9	8,653.1	0.00	0.00	0.00	
18,600.0	90.00	359.60	9,734.0	8,753.0	-16.6	8,753.1	0.00	0.00	0.00	
18,700.0	90.00	359.60	9,734.0	8,853.0	-17.3	8,853.1	0.00	0.00	0.00	
18,800.0	90.00	359.60	9,734.0	8,953.0	-18.0	8,953.1	0.00	0.00	0.00	
18,900.0	90.00	359.60	9,734.0	9,053.0	-18.7	9,053.1	0.00	0.00	0.00	
19,000.0	90.00	359.60	9,734.0	9,153.0	-19.4	9,153.1	0.00	0.00	0.00	
19,100.0	90.00	359.60	9,734.0	9,253.0	-20.1	9,253.1	0.00	0.00	0.00	
19,200.0	90.00	359.60	9,734.0	9,353.0	-20.8	9,353.1	0.00	0.00	0.00	
19,300.0	90.00	359.60	9,734.0	9,453.0	-21.5	9,453.1	0.00	0.00	0.00	
19,400.0	90.00	359.60	9,734.0	9,553.0	-22.2	9,553.1	0.00	0.00	0.00	
19,500.0	90.00	359.60	9,734.0	9,653.0	-22.9	9,653.1	0.00	0.00	0.00	
19,600.0	90.00	359.60	9,734.0	9,753.0	-23.6	9,753.0	0.00	0.00	0.00	
19,700.0	90.00	359.60	9,734.0	9,853.0	-24.3	9,853.0	0.00	0.00	0.00	
19,800.0	90.00	359.60	9,734.0	9,953.0	-24.9	9,953.0	0.00	0.00	0.00	
19,900.0	90.00	359.60	9,734.0	10,053.0	-25.6	10,053.0	0.00	0.00	0.00	
19,968.0	90.00	359.60	9,734.0	10,121.0	-26.1	10,121.0	0.00	0.00	0.00	
TD at 19968.0 - LTP/BHL - Emerald Fed Com 502H										

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
KOP - Emerald Fed Con	0.00	0.00	9,156.0	-299.6	46.2	612,492.08	734,006.42	32.682222	-103.707121
- plan misses target center by 30.0usft at 9173.1usft MD (9156.0 TVD, -299.6 N, 76.2 E)									
- Point									
LTP/BHL - Emerald Fed	0.00	0.00	9,734.0	10,121.0	-26.1	622,912.65	733,934.08	32.710865	-103.707156
- plan hits target center									
- Point									
FTP - Emerald Fed Com	0.00	0.00	9,734.0	-249.7	45.9	612,542.00	734,006.05	32.682359	-103.707121
- plan misses target center by 164.6usft at 9675.0usft MD (9612.3 TVD, -140.9 N, 66.5 E)									
- Point									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
19,967.2	9,734.0	20" Casing	20	24

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,460.0	1,460.0	RUSTLER			
1,754.0	1,754.0	SOLADO			
3,461.2	3,453.0	YATES			
4,746.7	4,730.0	CAPITAN_REEF			
5,168.1	5,151.0	CHERRY_CNYN			
5,785.1	5,768.0	BRUSHY_CANYON			
7,451.1	7,434.0	BSPG_LIME *			
8,189.1	8,172.0	AVALON_B			
8,744.1	8,727.0	FBSG_SD *			
9,121.1	9,104.0	SBSG_CARB			
9,311.1	9,294.0	SBSG_SD			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.0	2,000.0	0.0	0.0	KOP - Start Build 2.00
2,330.3	2,329.6	-18.4	4.7	Start 2356.5 hold at 2330.3 MD
4,686.8	4,670.4	-281.2	71.5	Start Drop -2.00
5,017.1	5,000.0	-299.6	76.2	Start 4256.5 hold at 5017.1 MD
9,273.6	9,256.5	-299.6	76.2	KOP #2 - Start Build 12.00
10,023.6	9,734.0	177.0	47.1	Turn - Start DLS 2.00 TFO 90.00
10,178.7	9,734.0	332.0	41.8	LP - Start 9789.2 hold at 10178.7 MD
19,968.0	9,734.0	10,121.0	-26.1	TD at 19968.0

Avant Operating, LLC

Lea Co., NM (NAD 83)

Emerald Pad 1

Emerald Fed Com 502H

OH

Plan 0.1

Anticollision Report

24 June, 2024

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Reference	Plan 0.1		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 2,196.8usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	6/24/2024		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	19,967.2	Plan 0.1 (OH)	B001Mb_MWD+HRGM	OWSG MWD + HRGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Alpha Wolf 36 FC Pad						
Alpha Wolf 36 FC 501H - OH - Plan 0.1	16,899.7	9,250.0	1,463.7	1,328.7	10.842	CC
Alpha Wolf 36 FC 501H - OH - Plan 0.1	16,900.0	9,250.0	1,463.7	1,328.7	10.841	ES
Alpha Wolf 36 FC 501H - OH - Plan 0.1	17,000.0	9,250.0	1,467.1	1,331.0	10.780	SF
Alpha Wolf 36 FC 502H - OH - Plan 0.1	15,986.4	9,200.0	1,465.0	1,343.7	12.077	CC
Alpha Wolf 36 FC 502H - OH - Plan 0.1	16,000.0	9,200.0	1,465.1	1,343.6	12.060	ES
Alpha Wolf 36 FC 502H - OH - Plan 0.1	16,100.0	9,200.0	1,469.4	1,346.8	11.983	SF
Alpha Wolf 36 FC 503H - OH - Plan 0.1	15,233.5	9,250.0	1,465.7	1,352.1	12.894	CC, ES
Alpha Wolf 36 FC 503H - OH - Plan 0.1	15,400.0	9,250.0	1,475.2	1,359.6	12.763	SF
Alpha Wolf 36 FC 601H - OH - Plan 0.1	17,090.0	9,841.3	1,305.2	1,156.3	8.766	CC
Alpha Wolf 36 FC 601H - OH - Plan 0.1	17,100.0	9,841.3	1,305.2	1,156.2	8.759	ES
Alpha Wolf 36 FC 601H - OH - Plan 0.1	17,200.0	9,841.3	1,309.8	1,159.9	8.734	SF
Alpha Wolf 36 FC 602H - OH - Plan 0.1	16,100.0	9,780.3	1,305.6	1,172.9	9.838	CC, ES
Alpha Wolf 36 FC 602H - OH - Plan 0.1	16,200.0	9,780.3	1,309.4	1,175.6	9.785	SF
Alpha Wolf 36 FC 603H - OH - Plan 0.1	15,110.0	9,841.6	1,306.1	1,184.2	10.719	CC, ES
Alpha Wolf 36 FC 603H - OH - Plan 0.1	15,200.0	9,841.6	1,309.1	1,186.2	10.650	SF
Lone Wolf 36 B2DA State Com 001H - OH - OH	18,905.1	14,107.0	1,488.3	1,324.3	9.073	CC
Lone Wolf 36 B2DA State Com 001H - OH - OH	19,000.0	14,107.0	1,491.3	1,321.9	8.801	ES
Lone Wolf 36 B2DA State Com 001H - OH - OH	19,400.0	14,107.0	1,568.4	1,378.8	8.270	SF
Emerald						
Emerald Federal Com 513H - OH - Plan 0.1	2,164.1	2,164.0	19.3	4.3	1.288	Level 3, CC
Emerald Federal Com 513H - OH - Plan 0.1	2,200.0	2,199.8	19.5	4.2	1.276	Level 3, ES, SF
Nellis Federal 03 - OH - OH	12,998.4	9,752.0	731.8	444.4	2.546	CC
Nellis Federal 03 - OH - OH	13,000.0	9,752.1	731.8	444.3	2.545	ES, SF
Emerald Offset Wells						
Hudson Federal 31 #2 - OH - P & A	19,052.5	9,776.5	457.7	135.5	1.421	Level 3, CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Emerald Pad 1						
Emerald Fed Com 301H - OH - Plan 0.1	2,002.1	2,005.0	160.3	146.4	11.523	CC, ES
Emerald Fed Com 301H - OH - Plan 0.1	19,968.0	19,114.0	1,305.9	1,060.1	5.312	SF
Emerald Fed Com 302H - OH - Plan 0.1	8,305.0	8,331.3	30.0	-28.6	0.512	Level 1, CC
Emerald Fed Com 302H - OH - Plan 0.1	8,400.0	8,426.1	30.1	-29.1	0.509	Level 1, ES, SF
Emerald Fed Com 303H - OH - Plan 0.1	2,001.1	2,003.6	162.7	148.8	11.706	CC, ES
Emerald Fed Com 303H - OH - Plan 0.1	19,968.0	19,124.9	1,305.7	1,058.8	5.288	SF
Emerald Fed Com 501H - OH - Plan 0.1	2,000.0	2,000.0	20.0	6.1	1.440	Level 3, CC, ES, SF
Emerald Fed Com 601H - OH - Plan 0.1	2,641.2	2,628.1	138.4	120.2	7.618	CC
Emerald Fed Com 601H - OH - Plan 0.1	2,700.0	2,686.0	138.7	120.2	7.474	ES
Emerald Fed Com 601H - OH - Plan 0.1	19,968.0	20,795.2	1,220.4	966.6	4.809	SF
Emerald Fed Com 602H - OH - Plan 0.1	3,535.8	3,524.6	28.6	3.9	1.158	Level 2, CC
Emerald Fed Com 602H - OH - Plan 0.1	9,444.1	9,424.9	35.1	-31.0	0.531	Level 1, ES, SF
Emerald Fed Com 603H - OH - Plan 0.1	2,860.4	2,845.1	133.0	113.4	6.774	CC
Emerald Fed Com 603H - OH - Plan 0.1	2,900.0	2,884.4	133.2	113.2	6.687	ES
Emerald Fed Com 603H - OH - Plan 0.1	19,968.0	20,802.2	1,220.6	967.6	4.825	SF
Emerald Pad 2						
Emerald Fed Com 304H - OH - Plan 0.1	8,307.2	8,391.4	1,900.2	1,840.6	31.882	CC
Emerald Fed Com 304H - OH - Plan 0.1	8,500.0	8,578.3	1,900.4	1,839.6	31.263	ES
Emerald Fed Com 304H - OH - Plan 0.1	19,968.0	19,118.1	2,146.5	1,867.1	7.684	SF
Emerald Fed Com 503H - OH - Plan 0.1	9,200.0	9,455.8	894.0	826.7	13.278	CC
Emerald Fed Com 503H - OH - Plan 0.1	19,968.0	20,213.4	924.0	620.6	3.046	ES, SF
Emerald Fed Com 514H - OH - Plan 0.1	9,200.0	9,258.3	1,900.2	1,834.7	29.028	CC
Emerald Fed Com 514H - OH - Plan 0.1	19,968.0	20,015.1	1,933.6	1,630.2	6.373	ES, SF
Emerald Fed Com 604H - OH - Plan 0.1	9,506.5	9,627.5	1,908.6	1,840.9	28.199	CC
Emerald Fed Com 604H - OH - Plan 0.1	19,968.0	20,799.0	2,087.4	1,796.1	7.166	ES, SF
Lone Wolf 36 Pad						
LONE WOLF 36 B2DA STATE COM 001H - OH - OH	18,905.1	14,107.0	1,488.6	1,323.9	9.039	CC
LONE WOLF 36 B2DA STATE COM 001H - OH - OH	19,000.0	14,107.0	1,491.6	1,321.1	8.748	ES
LONE WOLF 36 B2DA STATE COM 001H - OH - OH	19,400.0	14,107.0	1,568.7	1,376.3	8.153	SF
Lone Wolf 36 Fed Com 304H - OH - Plan 0.1	17,756.2	8,575.0	1,945.5	1,821.2	15.657	CC
Lone Wolf 36 Fed Com 304H - OH - Plan 0.1	17,800.0	8,575.0	1,945.9	1,821.1	15.585	ES
Lone Wolf 36 Fed Com 304H - OH - Plan 0.1	18,000.0	8,575.0	1,960.7	1,833.5	15.423	SF
Lone Wolf 36 Fed Com 305H - OH - Plan 0.2	18,812.2	8,525.0	1,945.5	1,810.3	14.388	CC, ES
Lone Wolf 36 Fed Com 305H - OH - Plan 0.2	19,000.0	8,525.0	1,954.6	1,817.5	14.255	SF
Lone Wolf 36 Fed Com 306H - OH - Plan 0.1	19,736.3	8,625.0	1,945.0	1,796.6	13.111	CC, ES
Lone Wolf 36 Fed Com 306H - OH - Plan 0.1	19,900.0	8,625.0	1,951.9	1,802.2	13.038	SF
Lone Wolf 36 Fed Com 504H - OH - Plan 0.1	17,975.9	9,275.0	1,448.3	1,299.4	9.731	CC
Lone Wolf 36 Fed Com 504H - OH - Plan 0.1	18,000.0	9,275.0	1,448.5	1,299.3	9.710	ES
Lone Wolf 36 Fed Com 504H - OH - Plan 0.1	18,100.0	9,275.0	1,453.6	1,303.3	9.673	SF
Lone Wolf 36 Fed Com 505H - OH - Plan 0.1	18,865.9	9,265.3	1,447.9	1,287.8	9.044	CC
Lone Wolf 36 Fed Com 505H - OH - Plan 0.1	18,900.0	9,265.4	1,448.3	1,287.8	9.022	ES
Lone Wolf 36 Fed Com 505H - OH - Plan 0.1	19,000.0	9,265.4	1,454.1	1,292.7	9.007	SF
Lone Wolf 36 Fed Com 506H - OH - Plan 0.1	19,735.9	9,338.4	1,447.9	1,273.4	8.299	CC, ES
Lone Wolf 36 Fed Com 506H - OH - Plan 0.1	19,800.0	9,338.4	1,449.3	1,274.2	8.275	SF
Lone Wolf 36 Fed Com 604H - OH - Plan 0.1	17,975.8	9,832.9	1,305.0	1,145.9	8.205	CC
Lone Wolf 36 Fed Com 604H - OH - Plan 0.1	18,000.0	9,832.9	1,305.2	1,145.8	8.190	ES
Lone Wolf 36 Fed Com 604H - OH - Plan 0.1	18,100.0	9,832.9	1,310.9	1,150.6	8.179	SF
Lone Wolf 36 Fed Com 605H - OH - Plan 0.2	18,811.8	9,792.3	1,304.6	1,134.1	7.650	CC, ES
Lone Wolf 36 Fed Com 605H - OH - Plan 0.2	18,900.0	9,792.3	1,307.6	1,136.1	7.626	SF
Lone Wolf 36 Fed Com 606H - OH - Plan 0.1	19,735.8	9,868.2	1,304.1	1,117.7	6.996	CC, ES
Lone Wolf 36 Fed Com 606H - OH - Plan 0.1	19,800.0	9,868.2	1,305.7	1,118.6	6.978	SF

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Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 501H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
15,300.0	9,734.0	9,224.6	9,170.3	87.4	34.1	-65.97	7,041.5	-1,342.8	2,167.7	2,074.1	93.54	23.173		
15,400.0	9,734.0	9,226.5	9,172.1	88.7	34.1	-66.04	7,041.6	-1,343.4	2,095.0	1,999.2	95.80	21.870		
15,500.0	9,734.0	9,228.5	9,173.9	90.1	34.1	-66.11	7,041.7	-1,344.0	2,024.7	1,926.6	98.19	20.621		
15,600.0	9,734.0	9,230.4	9,175.7	91.4	34.1	-66.19	7,041.9	-1,344.7	1,957.0	1,856.3	100.73	19.429		
15,700.0	9,734.0	9,250.0	9,194.0	92.8	34.2	-66.95	7,043.4	-1,351.6	1,892.5	1,788.8	103.72	18.247		
15,800.0	9,734.0	9,250.0	9,194.0	94.1	34.2	-66.95	7,043.4	-1,351.6	1,830.7	1,724.3	106.49	17.191		
15,900.0	9,734.0	9,250.0	9,194.0	95.5	34.2	-66.95	7,043.4	-1,351.6	1,772.5	1,663.1	109.37	16.206		
16,000.0	9,734.0	9,250.0	9,194.0	96.8	34.2	-66.95	7,043.4	-1,351.6	1,718.1	1,605.7	112.33	15.294		
16,100.0	9,734.0	9,250.0	9,194.0	98.2	34.2	-66.95	7,043.4	-1,351.6	1,667.9	1,552.5	115.34	14.460		
16,200.0	9,734.0	9,250.0	9,194.0	99.5	34.2	-66.95	7,043.4	-1,351.6	1,622.3	1,504.0	118.36	13.707		
16,300.0	9,734.0	9,250.0	9,194.0	100.9	34.2	-66.95	7,043.4	-1,351.6	1,581.8	1,460.4	121.33	13.036		
16,400.0	9,734.0	9,250.0	9,194.0	102.3	34.2	-66.95	7,043.4	-1,351.6	1,546.6	1,422.4	124.21	12.452		
16,500.0	9,734.0	9,250.0	9,194.0	103.6	34.2	-66.95	7,043.4	-1,351.6	1,517.3	1,390.3	126.93	11.954		
16,600.0	9,734.0	9,250.0	9,194.0	105.0	34.2	-66.95	7,043.4	-1,351.6	1,494.0	1,364.6	129.43	11.544		
16,700.0	9,734.0	9,250.0	9,194.0	106.4	34.2	-66.95	7,043.4	-1,351.6	1,477.2	1,345.6	131.64	11.222		
16,800.0	9,734.0	9,250.0	9,194.0	107.7	34.2	-66.95	7,043.4	-1,351.6	1,467.1	1,333.5	133.51	10.988		
16,899.7	9,734.0	9,250.0	9,194.0	109.1	34.2	-66.95	7,043.4	-1,351.6	1,463.7	1,328.7	135.00	10.842 CC		
16,900.0	9,734.0	9,250.0	9,194.0	109.1	34.2	-66.95	7,043.4	-1,351.6	1,463.7	1,328.7	135.01	10.841 ES		
17,000.0	9,734.0	9,250.0	9,194.0	110.5	34.2	-66.95	7,043.4	-1,351.6	1,467.1	1,331.0	136.09	10.780 SF		
17,100.0	9,734.0	9,250.0	9,194.0	111.9	34.2	-66.95	7,043.4	-1,351.6	1,477.3	1,340.5	136.76	10.802		
17,200.0	9,734.0	9,250.0	9,194.0	113.2	34.2	-66.95	7,043.4	-1,351.6	1,494.2	1,357.1	137.02	10.905		
17,300.0	9,734.0	9,270.3	9,212.6	114.6	34.3	-67.74	7,045.2	-1,359.4	1,517.0	1,379.4	137.52	11.031		
17,400.0	9,734.0	9,273.1	9,215.2	116.0	34.3	-67.85	7,045.5	-1,360.6	1,546.2	1,409.1	137.13	11.276		
17,500.0	9,734.0	9,276.0	9,217.8	117.4	34.3	-67.96	7,045.7	-1,361.8	1,581.3	1,444.8	136.43	11.590		
17,600.0	9,734.0	9,278.9	9,220.4	118.8	34.3	-68.08	7,046.0	-1,363.0	1,621.7	1,486.3	135.48	11.970		
17,700.0	9,734.0	9,281.9	9,223.1	120.2	34.3	-68.20	7,046.3	-1,364.2	1,667.2	1,532.9	134.32	12.412		
17,800.0	9,734.0	9,300.0	9,239.4	121.6	34.4	-68.90	7,048.0	-1,372.0	1,717.5	1,584.0	133.44	12.871		
17,900.0	9,734.0	9,300.0	9,239.4	122.9	34.4	-68.90	7,048.0	-1,372.0	1,771.7	1,639.8	131.90	13.431		
18,000.0	9,734.0	9,300.0	9,239.4	124.3	34.4	-68.90	7,048.0	-1,372.0	1,829.7	1,699.4	130.30	14.043		
18,100.0	9,734.0	9,300.0	9,239.4	125.7	34.4	-68.90	7,048.0	-1,372.0	1,891.3	1,762.7	128.65	14.701		
18,200.0	9,734.0	9,300.0	9,239.4	127.1	34.4	-68.90	7,048.0	-1,372.0	1,956.0	1,829.1	126.98	15.404		
18,300.0	9,734.0	9,300.0	9,239.4	128.5	34.4	-68.90	7,048.0	-1,372.0	2,023.7	1,898.3	125.33	16.147		
18,400.0	9,734.0	9,300.0	9,239.4	129.9	34.4	-68.90	7,048.0	-1,372.0	2,093.9	1,970.2	123.69	16.928		
18,500.0	9,734.0	9,300.0	9,239.4	131.3	34.4	-68.90	7,048.0	-1,372.0	2,166.4	2,044.3	122.10	17.743		

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Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
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Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 502H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,400.0	9,734.0	9,200.0	9,190.5	75.6	32.2	-66.79	6,130.2	-1,344.9	2,159.4	2,074.2	85.22	25.340	
14,500.0	9,734.0	9,200.0	9,190.5	76.9	32.2	-66.79	6,130.2	-1,344.9	2,087.1	2,000.0	87.08	23.967	
14,600.0	9,734.0	9,200.0	9,190.5	78.2	32.2	-66.79	6,130.2	-1,344.9	2,017.1	1,928.0	89.08	22.644	
14,700.0	9,734.0	9,200.0	9,190.5	79.5	32.2	-66.79	6,130.2	-1,344.9	1,949.7	1,858.5	91.21	21.376	
14,800.0	9,734.0	9,200.0	9,190.5	80.8	32.2	-66.79	6,130.2	-1,344.9	1,885.2	1,791.7	93.46	20.171	
14,900.0	9,734.0	9,200.0	9,190.5	82.1	32.2	-66.79	6,130.2	-1,344.9	1,823.9	1,728.1	95.84	19.031	
15,000.0	9,734.0	9,200.0	9,190.5	83.4	32.2	-66.79	6,130.2	-1,344.9	1,766.2	1,667.9	98.32	17.963	
15,100.0	9,734.0	9,200.0	9,190.5	84.7	32.2	-66.79	6,130.2	-1,344.9	1,712.3	1,611.5	100.89	16.973	
15,200.0	9,734.0	9,200.0	9,190.5	86.1	32.2	-66.79	6,130.2	-1,344.9	1,662.8	1,559.3	103.52	16.063	
15,300.0	9,734.0	9,200.0	9,190.5	87.4	32.2	-66.79	6,130.2	-1,344.9	1,617.9	1,511.7	106.17	15.238	
15,400.0	9,734.0	9,200.0	9,190.5	88.7	32.2	-66.79	6,130.2	-1,344.9	1,578.1	1,469.2	108.81	14.502	
15,500.0	9,734.0	9,200.0	9,190.5	90.1	32.2	-66.79	6,130.2	-1,344.9	1,543.7	1,432.3	111.39	13.858	
15,600.0	9,734.0	9,200.0	9,190.5	91.4	32.2	-66.79	6,130.2	-1,344.9	1,515.1	1,401.3	113.85	13.308	
15,700.0	9,734.0	9,200.0	9,190.5	92.8	32.2	-66.79	6,130.2	-1,344.9	1,492.8	1,376.6	116.15	12.853	
15,800.0	9,734.0	9,200.0	9,190.5	94.1	32.2	-66.79	6,130.2	-1,344.9	1,476.9	1,358.6	118.21	12.493	
15,900.0	9,734.0	9,200.0	9,190.5	95.5	32.2	-66.79	6,130.2	-1,344.9	1,467.6	1,347.6	120.00	12.229	
15,986.4	9,734.0	9,200.0	9,190.5	96.6	32.2	-66.79	6,130.2	-1,344.9	1,465.0	1,343.7	121.30	12.077	CC
16,000.0	9,734.0	9,200.0	9,190.5	96.8	32.2	-66.79	6,130.2	-1,344.9	1,465.1	1,343.6	121.49	12.060	ES
16,100.0	9,734.0	9,200.0	9,190.5	98.2	32.2	-66.79	6,130.2	-1,344.9	1,469.4	1,346.8	122.63	11.983	SF
16,200.0	9,734.0	9,200.0	9,190.5	99.5	32.2	-66.79	6,130.2	-1,344.9	1,480.5	1,357.1	123.42	11.996	
16,300.0	9,734.0	9,200.0	9,190.5	100.9	32.2	-66.79	6,130.2	-1,344.9	1,498.2	1,374.4	123.86	12.096	
16,400.0	9,734.0	9,218.8	9,207.8	102.3	32.3	-67.52	6,131.3	-1,352.1	1,521.9	1,397.4	124.47	12.227	
16,500.0	9,734.0	9,220.6	9,209.5	103.6	32.3	-67.59	6,131.4	-1,352.8	1,552.0	1,427.7	124.32	12.483	
16,600.0	9,734.0	9,222.5	9,211.2	105.0	32.3	-67.66	6,131.5	-1,353.6	1,587.8	1,463.9	123.90	12.815	
16,700.0	9,734.0	9,224.4	9,212.9	106.4	32.3	-67.74	6,131.6	-1,354.3	1,629.0	1,505.7	123.25	13.216	
16,800.0	9,734.0	9,226.3	9,214.7	107.7	32.3	-67.81	6,131.7	-1,355.1	1,675.1	1,552.7	122.42	13.683	
16,900.0	9,734.0	9,228.3	9,216.5	109.1	32.3	-67.89	6,131.9	-1,355.9	1,725.8	1,604.3	121.43	14.212	
17,000.0	9,734.0	9,230.2	9,218.3	110.5	32.3	-67.97	6,132.0	-1,356.8	1,780.6	1,660.3	120.34	14.797	
17,100.0	9,734.0	9,232.3	9,220.1	111.9	32.3	-68.04	6,132.1	-1,357.6	1,839.3	1,720.1	119.17	15.434	
17,200.0	9,734.0	9,250.0	9,236.0	113.2	32.4	-68.73	6,133.3	-1,365.3	1,901.6	1,783.3	118.31	16.074	
17,300.0	9,734.0	9,250.0	9,236.0	114.6	32.4	-68.73	6,133.3	-1,365.3	1,966.8	1,849.8	117.01	16.809	
17,400.0	9,734.0	9,250.0	9,236.0	116.0	32.4	-68.73	6,133.3	-1,365.3	2,034.8	1,919.1	115.70	17.586	
17,500.0	9,734.0	9,250.0	9,236.0	117.4	32.4	-68.73	6,133.3	-1,365.3	2,105.3	1,990.9	114.41	18.401	
17,600.0	9,734.0	9,250.0	9,236.0	118.8	32.4	-68.73	6,133.3	-1,365.3	2,178.2	2,065.0	113.14	19.252	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 503H - OH - Plan 0.1											Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
13,600.0	9,734.0	9,300.0	9,235.0	65.4	34.5	-68.66	5,373.9	-1,359.8	2,193.3	2,112.8	80.50	27.244
13,700.0	9,734.0	9,300.0	9,235.0	66.7	34.5	-68.66	5,373.9	-1,359.8	2,120.0	2,037.9	82.08	25.828
13,800.0	9,734.0	9,300.0	9,235.0	67.9	34.5	-68.66	5,373.9	-1,359.8	2,049.0	1,965.2	83.79	24.454
13,900.0	9,734.0	9,300.0	9,235.0	69.2	34.5	-68.66	5,373.9	-1,359.8	1,980.5	1,894.9	85.63	23.128
14,000.0	9,734.0	9,300.0	9,235.0	70.4	34.5	-68.66	5,373.9	-1,359.8	1,914.8	1,827.1	87.60	21.857
14,100.0	9,734.0	9,300.0	9,235.0	71.7	34.5	-68.66	5,373.9	-1,359.8	1,852.1	1,762.4	89.70	20.647
14,200.0	9,734.0	9,282.5	9,219.2	73.0	34.5	-67.98	5,375.2	-1,352.2	1,792.5	1,701.0	91.56	19.578
14,300.0	9,734.0	9,280.4	9,217.4	74.3	34.5	-67.90	5,375.3	-1,351.4	1,736.9	1,643.1	93.82	18.513
14,400.0	9,734.0	9,278.4	9,215.6	75.6	34.5	-67.82	5,375.5	-1,350.6	1,685.4	1,589.2	96.17	17.524
14,500.0	9,734.0	9,276.5	9,213.8	76.9	34.4	-67.74	5,375.6	-1,349.8	1,638.3	1,539.7	98.58	16.619
14,600.0	9,734.0	9,274.5	9,212.0	78.2	34.4	-67.67	5,375.8	-1,349.0	1,596.2	1,495.1	101.01	15.801
14,700.0	9,734.0	9,272.6	9,210.3	79.5	34.4	-67.59	5,375.9	-1,348.2	1,559.3	1,455.8	103.43	15.076
14,800.0	9,734.0	9,270.7	9,208.5	80.8	34.4	-67.52	5,376.0	-1,347.5	1,528.0	1,422.2	105.78	14.445
14,900.0	9,734.0	9,268.9	9,206.8	82.1	34.4	-67.45	5,376.1	-1,346.7	1,502.8	1,394.8	108.02	13.912
15,000.0	9,734.0	9,250.0	9,189.4	83.4	34.4	-66.71	5,377.3	-1,339.5	1,484.2	1,374.6	109.65	13.536
15,100.0	9,734.0	9,250.0	9,189.4	84.7	34.4	-66.71	5,377.3	-1,339.5	1,471.8	1,360.3	111.55	13.194
15,200.0	9,734.0	9,250.0	9,189.4	86.1	34.4	-66.71	5,377.3	-1,339.5	1,466.1	1,352.9	113.19	12.953
15,233.5	9,734.0	9,250.0	9,189.4	86.5	34.4	-66.71	5,377.3	-1,339.5	1,465.7	1,352.1	113.68	12.894 CC, ES
15,300.0	9,734.0	9,250.0	9,189.4	87.4	34.4	-66.71	5,377.3	-1,339.5	1,467.2	1,352.7	114.54	12.809
15,400.0	9,734.0	9,250.0	9,189.4	88.7	34.4	-66.71	5,377.3	-1,339.5	1,475.2	1,359.6	115.59	12.763 SF
15,500.0	9,734.0	9,250.0	9,189.4	90.1	34.4	-66.71	5,377.3	-1,339.5	1,489.8	1,373.5	116.31	12.809
15,600.0	9,734.0	9,250.0	9,189.4	91.4	34.4	-66.71	5,377.3	-1,339.5	1,510.9	1,394.1	116.72	12.945
15,700.0	9,734.0	9,250.0	9,189.4	92.8	34.4	-66.71	5,377.3	-1,339.5	1,538.2	1,421.3	116.83	13.166
15,800.0	9,734.0	9,250.0	9,189.4	94.1	34.4	-66.71	5,377.3	-1,339.5	1,571.4	1,454.7	116.68	13.468
15,900.0	9,734.0	9,250.0	9,189.4	95.5	34.4	-66.71	5,377.3	-1,339.5	1,610.1	1,493.8	116.29	13.845
16,000.0	9,734.0	9,250.0	9,189.4	96.8	34.4	-66.71	5,377.3	-1,339.5	1,654.0	1,538.3	115.72	14.294
16,100.0	9,734.0	9,250.0	9,189.4	98.2	34.4	-66.71	5,377.3	-1,339.5	1,702.7	1,587.7	114.98	14.809
16,200.0	9,734.0	9,250.0	9,189.4	99.5	34.4	-66.71	5,377.3	-1,339.5	1,755.7	1,641.6	114.12	15.385
16,300.0	9,734.0	9,250.0	9,189.4	100.9	34.4	-66.71	5,377.3	-1,339.5	1,812.7	1,699.5	113.17	16.017
16,400.0	9,734.0	9,250.0	9,189.4	102.3	34.4	-66.71	5,377.3	-1,339.5	1,873.2	1,761.1	112.16	16.702
16,500.0	9,734.0	9,250.0	9,189.4	103.6	34.4	-66.71	5,377.3	-1,339.5	1,937.1	1,826.0	111.11	17.434
16,600.0	9,734.0	9,250.0	9,189.4	105.0	34.4	-66.71	5,377.3	-1,339.5	2,003.9	1,893.9	110.04	18.210
16,700.0	9,734.0	9,250.0	9,189.4	106.4	34.4	-66.71	5,377.3	-1,339.5	2,073.4	1,964.4	108.97	19.027
16,800.0	9,734.0	9,250.0	9,189.4	107.7	34.4	-66.71	5,377.3	-1,339.5	2,145.3	2,037.4	107.91	19.880

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 601H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
15,400.0	9,734.0	9,841.3	9,769.0	88.7	37.3	-90.00	7,234.1	-1,311.3	2,135.4	2,037.6	97.72	21.852		
15,500.0	9,734.0	9,841.3	9,769.0	90.1	37.3	-90.00	7,234.1	-1,311.3	2,057.1	1,957.0	100.11	20.549		
15,600.0	9,734.0	9,841.3	9,769.0	91.4	37.3	-90.00	7,234.1	-1,311.3	1,980.8	1,878.2	102.67	19.293		
15,700.0	9,734.0	9,841.3	9,769.0	92.8	37.3	-90.00	7,234.1	-1,311.3	1,906.8	1,801.3	105.43	18.086		
15,800.0	9,734.0	9,841.3	9,769.0	94.1	37.3	-90.00	7,234.1	-1,311.3	1,835.1	1,726.8	108.36	16.935		
15,900.0	9,734.0	9,841.3	9,769.0	95.5	37.3	-90.00	7,234.1	-1,311.3	1,766.3	1,654.8	111.48	15.843		
16,000.0	9,734.0	9,841.3	9,769.0	96.8	37.3	-90.00	7,234.1	-1,311.3	1,700.5	1,585.7	114.78	14.815		
16,100.0	9,734.0	9,841.3	9,769.0	98.2	37.3	-90.00	7,234.1	-1,311.3	1,638.2	1,520.0	118.23	13.856		
16,200.0	9,734.0	9,841.3	9,769.0	99.5	37.3	-90.00	7,234.1	-1,311.3	1,579.8	1,458.0	121.81	12.969		
16,300.0	9,734.0	9,841.3	9,769.0	100.9	37.3	-90.00	7,234.1	-1,311.3	1,525.7	1,400.2	125.48	12.159		
16,400.0	9,734.0	9,841.3	9,769.0	102.3	37.3	-90.00	7,234.1	-1,311.3	1,476.4	1,347.2	129.19	11.428		
16,500.0	9,734.0	9,841.3	9,769.0	103.6	37.3	-90.00	7,234.1	-1,311.3	1,432.4	1,299.5	132.85	10.781		
16,600.0	9,734.0	9,841.3	9,769.0	105.0	37.3	-90.00	7,234.1	-1,311.3	1,394.2	1,257.8	136.40	10.221		
16,700.0	9,734.0	9,841.3	9,769.0	106.4	37.3	-90.00	7,234.1	-1,311.3	1,362.2	1,222.5	139.74	9.748		
16,800.0	9,734.0	9,841.3	9,769.0	107.7	37.3	-90.00	7,234.1	-1,311.3	1,337.0	1,194.3	142.76	9.366		
16,900.0	9,734.0	9,841.3	9,769.0	109.1	37.3	-90.00	7,234.1	-1,311.3	1,319.0	1,173.6	145.37	9.073		
17,000.0	9,734.0	9,841.3	9,769.0	110.5	37.3	-90.00	7,234.1	-1,311.3	1,308.3	1,160.8	147.48	8.871		
17,090.0	9,734.0	9,841.3	9,769.0	111.7	37.3	-90.00	7,234.1	-1,311.3	1,305.2	1,156.3	148.89	8.766 CC		
17,100.0	9,734.0	9,841.3	9,769.0	111.9	37.3	-90.00	7,234.1	-1,311.3	1,305.2	1,156.2	149.02	8.759 ES		
17,200.0	9,734.0	9,841.3	9,769.0	113.2	37.3	-90.00	7,234.1	-1,311.3	1,309.8	1,159.9	149.96	8.734 SF		
17,300.0	9,734.0	9,841.3	9,769.0	114.6	37.3	-90.00	7,234.1	-1,311.3	1,322.0	1,171.7	150.30	8.795		
17,400.0	9,734.0	9,841.3	9,769.0	116.0	37.3	-90.00	7,234.1	-1,311.3	1,341.5	1,191.4	150.06	8.940		
17,500.0	9,734.0	9,841.3	9,769.0	117.4	37.3	-90.00	7,234.1	-1,311.3	1,368.1	1,218.8	149.30	9.163		
17,600.0	9,734.0	9,841.3	9,769.0	118.8	37.3	-90.00	7,234.1	-1,311.3	1,401.3	1,253.2	148.09	9.462		
17,700.0	9,734.0	9,841.3	9,769.0	120.2	37.3	-90.00	7,234.1	-1,311.3	1,440.7	1,294.2	146.51	9.833		
17,800.0	9,734.0	9,841.3	9,769.0	121.6	37.3	-90.00	7,234.1	-1,311.3	1,485.8	1,341.1	144.66	10.271		
17,900.0	9,734.0	9,841.3	9,769.0	122.9	37.3	-90.00	7,234.1	-1,311.3	1,536.1	1,393.5	142.60	10.772		
18,000.0	9,734.0	9,841.3	9,769.0	124.3	37.3	-90.00	7,234.1	-1,311.3	1,591.1	1,450.7	140.41	11.332		
18,100.0	9,734.0	9,841.3	9,769.0	125.7	37.3	-90.00	7,234.1	-1,311.3	1,650.3	1,512.2	138.15	11.946		
18,200.0	9,734.0	9,841.3	9,769.0	127.1	37.3	-90.00	7,234.1	-1,311.3	1,713.3	1,577.5	135.86	12.611		
18,300.0	9,734.0	9,841.3	9,769.0	128.5	37.3	-90.00	7,234.1	-1,311.3	1,779.8	1,646.2	133.60	13.322		
18,400.0	9,734.0	9,841.3	9,769.0	129.9	37.3	-90.00	7,234.1	-1,311.3	1,849.2	1,717.8	131.38	14.076		
18,500.0	9,734.0	9,841.3	9,769.0	131.3	37.3	-90.00	7,234.1	-1,311.3	1,921.3	1,792.1	129.22	14.869		
18,600.0	9,734.0	9,841.3	9,769.0	132.7	37.3	-90.00	7,234.1	-1,311.3	1,995.9	1,868.7	127.14	15.698		
18,700.0	9,734.0	9,841.3	9,769.0	134.1	37.3	-90.00	7,234.1	-1,311.3	2,072.6	1,947.4	125.15	16.560		
18,800.0	9,734.0	9,841.3	9,769.0	135.5	37.3	-90.00	7,234.1	-1,311.3	2,151.2	2,027.9	123.26	17.452		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 602H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,400.0	9,734.0	9,780.3	9,771.0	75.6	34.8	-90.00	6,244.1	-1,304.9	2,143.5	2,055.2	88.32	24.269	
14,500.0	9,734.0	9,780.3	9,771.0	76.9	34.8	-90.00	6,244.1	-1,304.9	2,065.1	1,974.9	90.24	22.884	
14,600.0	9,734.0	9,780.3	9,771.0	78.2	34.8	-90.00	6,244.1	-1,304.9	1,988.6	1,896.3	92.32	21.541	
14,700.0	9,734.0	9,780.3	9,771.0	79.5	34.8	-90.00	6,244.1	-1,304.9	1,914.3	1,819.8	94.57	20.244	
14,800.0	9,734.0	9,780.3	9,771.0	80.8	34.8	-90.00	6,244.1	-1,304.9	1,842.5	1,745.5	96.98	18.999	
14,900.0	9,734.0	9,780.3	9,771.0	82.1	34.8	-90.00	6,244.1	-1,304.9	1,773.3	1,673.8	99.56	17.812	
15,000.0	9,734.0	9,780.3	9,771.0	83.4	34.8	-90.00	6,244.1	-1,304.9	1,707.2	1,604.9	102.31	16.688	
15,100.0	9,734.0	9,780.3	9,771.0	84.7	34.8	-90.00	6,244.1	-1,304.9	1,644.6	1,539.4	105.20	15.632	
15,200.0	9,734.0	9,780.3	9,771.0	86.1	34.8	-90.00	6,244.1	-1,304.9	1,585.8	1,477.5	108.23	14.651	
15,300.0	9,734.0	9,780.3	9,771.0	87.4	34.8	-90.00	6,244.1	-1,304.9	1,531.2	1,419.9	111.36	13.750	
15,400.0	9,734.0	9,780.3	9,771.0	88.7	34.8	-90.00	6,244.1	-1,304.9	1,481.4	1,366.9	114.55	12.932	
15,500.0	9,734.0	9,780.3	9,771.0	90.1	34.8	-90.00	6,244.1	-1,304.9	1,436.9	1,319.2	117.75	12.203	
15,600.0	9,734.0	9,780.3	9,771.0	91.4	34.8	-90.00	6,244.1	-1,304.9	1,398.1	1,277.2	120.88	11.566	
15,700.0	9,734.0	9,780.3	9,771.0	92.8	34.8	-90.00	6,244.1	-1,304.9	1,365.5	1,241.7	123.86	11.025	
15,800.0	9,734.0	9,780.3	9,771.0	94.1	34.8	-90.00	6,244.1	-1,304.9	1,339.7	1,213.0	126.62	10.580	
15,900.0	9,734.0	9,780.3	9,771.0	95.5	34.8	-90.00	6,244.1	-1,304.9	1,320.9	1,191.8	129.06	10.234	
16,000.0	9,734.0	9,780.3	9,771.0	96.8	34.8	-90.00	6,244.1	-1,304.9	1,309.5	1,178.3	131.12	9.987	
16,100.0	9,734.0	9,780.3	9,771.0	98.2	34.8	-90.00	6,244.1	-1,304.9	1,305.6	1,172.9	132.71	9.838	
16,100.0	9,734.0	9,780.3	9,771.0	98.2	34.8	-90.00	6,244.1	-1,304.9	1,305.6	1,172.9	132.72	9.838	CC, ES
16,200.0	9,734.0	9,780.3	9,771.0	99.5	34.8	-90.00	6,244.1	-1,304.9	1,309.4	1,175.6	133.82	9.785	SF
16,300.0	9,734.0	9,780.3	9,771.0	100.9	34.8	-90.00	6,244.1	-1,304.9	1,320.9	1,186.4	134.42	9.826	
16,400.0	9,734.0	9,780.3	9,771.0	102.3	34.8	-90.00	6,244.1	-1,304.9	1,339.6	1,205.1	134.53	9.958	
16,500.0	9,734.0	9,780.3	9,771.0	103.6	34.8	-90.00	6,244.1	-1,304.9	1,365.5	1,231.3	134.19	10.176	
16,600.0	9,734.0	9,780.3	9,771.0	105.0	34.8	-90.00	6,244.1	-1,304.9	1,398.1	1,264.6	133.45	10.476	
16,700.0	9,734.0	9,780.3	9,771.0	106.4	34.8	-90.00	6,244.1	-1,304.9	1,436.9	1,304.5	132.38	10.854	
16,800.0	9,734.0	9,780.3	9,771.0	107.7	34.8	-90.00	6,244.1	-1,304.9	1,481.4	1,350.4	131.05	11.304	
16,900.0	9,734.0	9,780.3	9,771.0	109.1	34.8	-90.00	6,244.1	-1,304.9	1,531.2	1,401.7	129.52	11.822	
17,000.0	9,734.0	9,780.3	9,771.0	110.5	34.8	-90.00	6,244.1	-1,304.9	1,585.8	1,457.9	127.86	12.402	
17,100.0	9,734.0	9,780.3	9,771.0	111.9	34.8	-90.00	6,244.1	-1,304.9	1,644.6	1,518.5	126.12	13.040	
17,200.0	9,734.0	9,780.3	9,771.0	113.2	34.8	-90.00	6,244.1	-1,304.9	1,707.2	1,582.9	124.34	13.731	
17,300.0	9,734.0	9,780.3	9,771.0	114.6	34.8	-90.00	6,244.1	-1,304.9	1,773.3	1,650.8	122.55	14.470	
17,400.0	9,734.0	9,780.3	9,771.0	116.0	34.8	-90.00	6,244.1	-1,304.9	1,842.4	1,721.7	120.78	15.254	
17,500.0	9,734.0	9,780.3	9,771.0	117.4	34.8	-90.00	6,244.1	-1,304.9	1,914.3	1,795.3	119.06	16.079	
17,600.0	9,734.0	9,780.3	9,771.0	118.8	34.8	-90.00	6,244.1	-1,304.9	1,988.6	1,871.2	117.39	16.940	
17,700.0	9,734.0	9,780.3	9,771.0	120.2	34.8	-90.00	6,244.1	-1,304.9	2,065.1	1,949.3	115.78	17.836	
17,800.0	9,734.0	9,780.3	9,771.0	121.6	34.8	-90.00	6,244.1	-1,304.9	2,143.5	2,029.3	114.25	18.762	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 603H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
13,400.0	9,734.0	9,841.6	9,769.0	63.0	37.1	-90.00	5,254.1	-1,298.4	2,151.7	2,069.5	82.19	26.181	
13,500.0	9,734.0	9,841.6	9,769.0	64.2	37.1	-90.00	5,254.1	-1,298.4	2,073.1	1,989.4	83.73	24.759	
13,600.0	9,734.0	9,841.6	9,769.0	65.4	37.1	-90.00	5,254.1	-1,298.4	1,996.5	1,911.0	85.43	23.370	
13,700.0	9,734.0	9,841.6	9,769.0	66.7	37.1	-90.00	5,254.1	-1,298.4	1,921.9	1,834.7	87.28	22.021	
13,800.0	9,734.0	9,841.6	9,769.0	67.9	37.1	-90.00	5,254.1	-1,298.4	1,849.8	1,760.5	89.29	20.717	
13,900.0	9,734.0	9,841.6	9,769.0	69.2	37.1	-90.00	5,254.1	-1,298.4	1,780.4	1,688.9	91.47	19.465	
14,000.0	9,734.0	9,841.6	9,769.0	70.4	37.1	-90.00	5,254.1	-1,298.4	1,714.0	1,620.2	93.80	18.272	
14,100.0	9,734.0	9,841.6	9,769.0	71.7	37.1	-90.00	5,254.1	-1,298.4	1,651.0	1,554.7	96.30	17.144	
14,200.0	9,734.0	9,841.6	9,769.0	73.0	37.1	-90.00	5,254.1	-1,298.4	1,591.8	1,492.9	98.94	16.089	
14,300.0	9,734.0	9,841.6	9,769.0	74.3	37.1	-90.00	5,254.1	-1,298.4	1,536.8	1,435.1	101.70	15.112	
14,400.0	9,734.0	9,841.6	9,769.0	75.6	37.1	-90.00	5,254.1	-1,298.4	1,486.6	1,382.0	104.54	14.220	
14,500.0	9,734.0	9,841.6	9,769.0	76.9	37.1	-90.00	5,254.1	-1,298.4	1,441.5	1,334.1	107.42	13.419	
14,600.0	9,734.0	9,841.6	9,769.0	78.2	37.1	-90.00	5,254.1	-1,298.4	1,402.1	1,291.8	110.28	12.714	
14,700.0	9,734.0	9,841.6	9,769.0	79.5	37.1	-90.00	5,254.1	-1,298.4	1,368.9	1,255.8	113.05	12.109	
14,800.0	9,734.0	9,841.6	9,769.0	80.8	37.1	-90.00	5,254.1	-1,298.4	1,342.3	1,226.7	115.66	11.606	
14,900.0	9,734.0	9,841.6	9,769.0	82.1	37.1	-90.00	5,254.1	-1,298.4	1,322.8	1,204.8	118.01	11.209	
15,000.0	9,734.0	9,841.6	9,769.0	83.4	37.1	-90.00	5,254.1	-1,298.4	1,310.7	1,190.6	120.05	10.918	
15,100.0	9,734.0	9,841.6	9,769.0	84.7	37.1	-90.00	5,254.1	-1,298.4	1,306.1	1,184.4	121.70	10.732	
15,110.0	9,734.0	9,841.6	9,769.0	84.9	37.1	-90.00	5,254.1	-1,298.4	1,306.1	1,184.2	121.85	10.719 CC, ES	
15,200.0	9,734.0	9,841.6	9,769.0	86.1	37.1	-90.00	5,254.1	-1,298.4	1,309.1	1,186.2	122.93	10.650 SF	
15,300.0	9,734.0	9,841.6	9,769.0	87.4	37.1	-90.00	5,254.1	-1,298.4	1,319.8	1,196.1	123.71	10.668	
15,400.0	9,734.0	9,841.6	9,769.0	88.7	37.1	-90.00	5,254.1	-1,298.4	1,337.9	1,213.8	124.05	10.784	
15,500.0	9,734.0	9,841.6	9,769.0	90.1	37.1	-90.00	5,254.1	-1,298.4	1,363.0	1,239.1	123.98	10.994	
15,600.0	9,734.0	9,841.6	9,769.0	91.4	37.1	-90.00	5,254.1	-1,298.4	1,394.9	1,271.4	123.55	11.291	
15,700.0	9,734.0	9,841.6	9,769.0	92.8	37.1	-90.00	5,254.1	-1,298.4	1,433.1	1,310.3	122.80	11.670	
15,800.0	9,734.0	9,841.6	9,769.0	94.1	37.1	-90.00	5,254.1	-1,298.4	1,477.1	1,355.3	121.81	12.127	
15,900.0	9,734.0	9,841.6	9,769.0	95.5	37.1	-90.00	5,254.1	-1,298.4	1,526.4	1,405.8	120.62	12.654	
16,000.0	9,734.0	9,841.6	9,769.0	96.8	37.1	-90.00	5,254.1	-1,298.4	1,580.5	1,461.2	119.30	13.248	
16,100.0	9,734.0	9,841.6	9,769.0	98.2	37.1	-90.00	5,254.1	-1,298.4	1,638.9	1,521.0	117.89	13.901	
16,200.0	9,734.0	9,841.6	9,769.0	99.5	37.1	-90.00	5,254.1	-1,298.4	1,701.1	1,584.7	116.44	14.610	
16,300.0	9,734.0	9,841.6	9,769.0	100.9	37.1	-90.00	5,254.1	-1,298.4	1,766.9	1,651.9	114.96	15.369	
16,400.0	9,734.0	9,841.6	9,769.0	102.3	37.1	-90.00	5,254.1	-1,298.4	1,835.7	1,722.2	113.50	16.174	
16,500.0	9,734.0	9,841.6	9,769.0	103.6	37.1	-90.00	5,254.1	-1,298.4	1,907.3	1,795.3	112.07	17.020	
16,600.0	9,734.0	9,841.6	9,769.0	105.0	37.1	-90.00	5,254.1	-1,298.4	1,981.4	1,870.7	110.67	17.903	
16,700.0	9,734.0	9,841.6	9,769.0	106.4	37.1	-90.00	5,254.1	-1,298.4	2,057.6	1,948.3	109.33	18.820	
16,800.0	9,734.0	9,841.6	9,769.0	107.7	37.1	-90.00	5,254.1	-1,298.4	2,135.9	2,027.8	108.04	19.769	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Lone Wolf 36 B2DA State Com 001H - OH - OH													Offset Site Error: 0.0 usft
Survey Program: 100-MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,300.0	9,734.0	14,107.0	9,580.0	114.6	107.1	-81.79	9,048.0	-1,491.8	2,189.0	2,039.2	149.79	14.614	
17,400.0	9,734.0	14,107.0	9,580.0	116.0	107.1	-81.79	9,048.0	-1,491.8	2,116.7	1,966.3	150.44	14.070	
17,500.0	9,734.0	14,107.0	9,580.0	117.4	107.1	-81.79	9,048.0	-1,491.8	2,046.8	1,895.8	151.04	13.551	
17,600.0	9,734.0	14,107.0	9,580.0	118.8	107.1	-81.79	9,048.0	-1,491.8	1,979.5	1,828.0	151.56	13.061	
17,700.0	9,734.0	14,107.0	9,580.0	120.2	107.1	-81.79	9,048.0	-1,491.8	1,915.1	1,763.1	151.97	12.602	
17,800.0	9,734.0	14,107.0	9,580.0	121.6	107.1	-81.79	9,048.0	-1,491.8	1,853.8	1,701.5	152.25	12.176	
17,900.0	9,734.0	14,107.0	9,580.0	122.9	107.1	-81.79	9,048.0	-1,491.8	1,795.9	1,643.6	152.38	11.786	
18,000.0	9,734.0	14,107.0	9,580.0	124.3	107.1	-81.79	9,048.0	-1,491.8	1,741.9	1,589.6	152.34	11.435	
18,100.0	9,734.0	14,107.0	9,580.0	125.7	107.1	-81.79	9,048.0	-1,491.8	1,692.1	1,540.0	152.12	11.124	
18,200.0	9,734.0	14,107.0	9,580.0	127.1	107.1	-81.79	9,048.0	-1,491.8	1,646.9	1,495.2	151.75	10.853	
18,300.0	9,734.0	14,107.0	9,580.0	128.5	107.1	-81.79	9,048.0	-1,491.8	1,606.6	1,455.3	151.32	10.618	
18,400.0	9,734.0	14,107.0	9,580.0	129.9	107.1	-81.79	9,048.0	-1,491.8	1,571.7	1,420.7	150.98	10.410	
18,500.0	9,734.0	14,107.0	9,580.0	131.3	107.1	-81.79	9,048.0	-1,491.8	1,542.5	1,391.4	151.08	10.210	
18,600.0	9,734.0	14,107.0	9,580.0	132.7	107.1	-81.79	9,048.0	-1,491.8	1,519.3	1,367.2	152.11	9.988	
18,700.0	9,734.0	14,107.0	9,580.0	134.1	107.1	-81.79	9,048.0	-1,491.8	1,502.4	1,347.8	154.57	9.720	
18,800.0	9,734.0	14,107.0	9,580.0	135.5	107.1	-81.79	9,048.0	-1,491.8	1,492.0	1,333.5	158.58	9.409	
18,900.0	9,734.0	14,107.0	9,580.0	136.9	107.1	-81.79	9,048.0	-1,491.8	1,488.3	1,324.6	163.75	9.089	
18,905.1	9,734.0	14,107.0	9,580.0	137.0	107.1	-81.79	9,048.0	-1,491.8	1,488.3	1,324.3	164.03	9.073	CC
19,000.0	9,734.0	14,107.0	9,580.0	138.3	107.1	-81.79	9,048.0	-1,491.8	1,491.3	1,321.9	169.45	8.801	ES
19,100.0	9,734.0	14,107.0	9,580.0	139.7	107.1	-81.79	9,048.0	-1,491.8	1,501.0	1,325.9	175.16	8.569	
19,200.0	9,734.0	14,107.0	9,580.0	141.1	107.1	-81.79	9,048.0	-1,491.8	1,517.3	1,336.7	180.56	8.403	
19,300.0	9,734.0	14,107.0	9,580.0	142.5	107.1	-81.79	9,048.0	-1,491.8	1,539.8	1,354.4	185.42	8.304	
19,400.0	9,734.0	14,107.0	9,580.0	143.9	107.1	-81.79	9,048.0	-1,491.8	1,568.4	1,378.8	189.66	8.270	SF
19,500.0	9,734.0	14,107.0	9,580.0	145.3	107.1	-81.79	9,048.0	-1,491.8	1,602.8	1,409.6	193.23	8.295	
19,600.0	9,734.0	14,107.0	9,580.0	146.7	107.1	-81.79	9,048.0	-1,491.8	1,642.5	1,446.4	196.14	8.374	
19,700.0	9,734.0	14,107.0	9,580.0	148.2	107.1	-81.79	9,048.0	-1,491.8	1,687.3	1,488.8	198.43	8.503	
19,800.0	9,734.0	14,107.0	9,580.0	149.6	107.1	-81.79	9,048.0	-1,491.8	1,736.6	1,536.5	200.16	8.676	
19,900.0	9,734.0	14,107.0	9,580.0	151.0	107.1	-81.79	9,048.0	-1,491.8	1,790.2	1,588.8	201.39	8.889	
19,968.0	9,734.0	14,107.0	9,580.0	151.8	107.1	-81.79	9,048.0	-1,491.8	1,828.9	1,626.5	202.38	9.037	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Emerald Federal Com 513H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	0.0	0.0	89.39	0.2	19.9	19.9				
100.0	100.0	100.0	100.0	0.1	0.1	89.39	0.2	19.9	19.9	19.6	0.26	75.543	
200.0	200.0	200.0	200.0	0.5	0.5	89.39	0.2	19.9	19.9	18.9	0.98	20.301	
300.0	300.0	300.0	300.0	0.8	0.8	89.39	0.2	19.9	19.9	18.2	1.70	11.726	
400.0	400.0	400.0	400.0	1.2	1.2	89.39	0.2	19.9	19.9	17.5	2.41	8.244	
500.0	500.0	500.0	500.0	1.6	1.6	89.39	0.2	19.9	19.9	16.8	3.13	6.357	
600.0	600.0	600.0	600.0	1.9	1.9	89.39	0.2	19.9	19.9	16.1	3.85	5.172	
700.0	700.0	700.0	700.0	2.3	2.3	89.39	0.2	19.9	19.9	15.3	4.57	4.360	
800.0	800.0	800.0	800.0	2.6	2.6	89.39	0.2	19.9	19.9	14.6	5.28	3.768	
833.3	833.3	833.3	833.3	2.8	2.8	89.39	0.2	19.9	19.9	14.4	5.52	3.605	
900.0	900.0	900.0	900.0	3.0	3.0	89.39	0.2	19.9	19.9	13.9	6.00	3.318	
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	89.39	0.2	19.9	19.9	13.2	6.72	2.964	
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	89.39	0.2	19.9	19.9	12.5	7.43	2.678	
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	89.39	0.2	19.9	19.9	11.8	8.15	2.442	
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	89.39	0.2	19.9	19.9	11.0	8.87	2.245	
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	89.39	0.2	19.9	19.9	10.3	9.58	2.077	
1,500.0	1,500.0	1,500.0	1,500.0	5.2	5.2	89.39	0.2	19.9	19.9	9.6	10.30	1.932	
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	89.39	0.2	19.9	19.9	8.9	11.02	1.807	
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	89.39	0.2	19.9	19.9	8.2	11.73	1.696	
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	89.39	0.2	19.9	19.9	7.5	12.45	1.599	
1,900.0	1,900.0	1,900.0	1,900.0	6.6	6.6	89.39	0.2	19.9	19.9	6.7	13.17	1.511	
2,000.0	2,000.0	2,000.0	2,000.0	6.9	6.9	89.39	0.2	19.9	19.9	6.0	13.89	1.433	Level 3
2,100.0	2,100.0	2,100.0	2,100.0	7.3	7.3	-81.32	0.2	19.9	19.6	5.0	14.58	1.342	Level 3
2,164.1	2,164.0	2,164.0	2,164.0	7.5	7.5	-90.00	0.2	19.9	19.3	4.3	15.02	1.288	Level 3, CC
2,200.0	2,199.8	2,199.8	2,199.8	7.6	7.7	-96.71	0.2	19.9	19.5	4.2	15.27	1.276	Level 3, ES, SF
2,300.0	2,299.5	2,299.5	2,299.5	7.9	8.0	-119.48	0.2	19.9	22.2	6.3	15.95	1.395	Level 3
2,400.0	2,398.8	2,398.8	2,398.8	8.3	8.4	-138.93	0.2	19.9	29.5	12.9	16.64	1.776	
2,500.0	2,498.1	2,498.1	2,498.1	8.6	8.7	-150.09	0.2	19.9	39.0	21.7	17.33	2.249	
2,600.0	2,597.5	2,597.5	2,597.5	8.9	9.1	-156.76	0.2	19.9	49.3	31.3	18.02	2.736	
2,700.0	2,696.8	2,696.8	2,696.8	9.3	9.4	-161.10	0.2	19.9	60.1	41.3	18.71	3.209	
2,800.0	2,796.1	2,796.1	2,796.1	9.6	9.8	-164.10	0.2	19.9	71.0	51.6	19.41	3.661	
2,900.0	2,895.5	2,895.5	2,895.5	10.0	10.2	-166.30	0.2	19.9	82.2	62.1	20.10	4.087	
3,000.0	2,994.8	2,994.8	2,994.8	10.4	10.5	-167.97	0.2	19.9	93.4	72.6	20.80	4.490	
3,100.0	3,094.2	3,094.2	3,094.2	10.7	10.9	-169.28	0.2	19.9	104.7	83.2	21.50	4.868	
3,200.0	3,193.5	3,193.5	3,193.5	11.1	11.2	-170.34	0.2	19.9	116.0	93.8	22.20	5.225	
3,300.0	3,292.8	3,292.8	3,292.8	11.4	11.6	-171.21	0.2	19.9	127.4	104.5	22.90	5.561	
3,400.0	3,392.2	3,392.2	3,392.2	11.8	11.9	-171.93	0.2	19.9	138.7	115.1	23.61	5.877	
3,500.0	3,491.5	3,491.5	3,491.5	12.2	12.3	-172.55	0.2	19.9	150.1	125.8	24.31	6.176	
3,600.0	3,590.8	3,590.8	3,590.8	12.5	12.6	-173.08	0.2	19.9	161.6	136.5	25.02	6.458	
3,700.0	3,690.2	3,690.2	3,690.2	12.9	13.0	-173.54	0.2	19.9	173.0	147.3	25.72	6.725	
3,800.0	3,789.5	3,789.5	3,789.5	13.3	13.4	-173.94	0.2	19.9	184.4	158.0	26.43	6.978	
3,900.0	3,888.8	3,888.8	3,888.8	13.7	13.7	-174.30	0.2	19.9	195.9	168.7	27.14	7.218	
4,000.0	3,988.2	3,988.2	3,988.2	14.0	14.1	-174.61	0.2	19.9	207.3	179.5	27.85	7.445	
4,100.0	4,087.5	4,087.5	4,087.5	14.4	14.4	-174.89	0.2	19.9	218.8	190.2	28.56	7.661	
4,200.0	4,186.9	4,186.9	4,186.9	14.8	14.8	-175.15	0.2	19.9	230.2	201.0	29.27	7.867	
4,300.0	4,286.2	4,286.2	4,286.2	15.2	15.1	-175.38	0.2	19.9	241.7	211.7	29.98	8.063	
4,400.0	4,385.5	4,385.5	4,385.5	15.5	15.5	-175.59	0.2	19.9	253.2	222.5	30.69	8.250	
4,500.0	4,484.9	4,484.9	4,484.9	15.9	15.9	-175.78	0.2	19.9	264.6	233.2	31.40	8.429	
4,600.0	4,584.2	4,584.2	4,584.2	16.3	16.2	-175.96	0.2	19.9	276.1	244.0	32.11	8.599	
4,700.0	4,683.5	4,683.5	4,683.5	16.7	16.6	-176.12	0.2	19.9	287.6	254.7	32.82	8.761	
4,800.0	4,783.1	4,783.1	4,783.1	17.0	16.9	-176.25	0.2	19.9	296.9	263.3	33.54	8.852	
4,900.0	4,882.9	4,882.9	4,882.9	17.4	17.3	-176.33	0.2	19.9	302.7	268.4	34.25	8.838	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Emerald Federal Com 513H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,000.0	4,982.9	4,982.9	4,982.9	17.8	17.6	-176.36	0.2	19.9	305.0	270.1	34.96	8.726	
5,100.0	5,082.9	5,082.3	5,087.2	18.1	18.0	-10.41	-0.2	21.2	304.5	268.8	35.67	8.535	
5,200.0	5,182.9	5,192.3	5,192.1	18.4	18.4	-9.56	-1.7	26.1	302.2	265.8	36.37	8.308	
5,300.0	5,282.9	5,296.8	5,296.3	18.8	18.7	-8.03	-4.4	34.5	298.4	261.3	37.07	8.050	
5,400.0	5,382.9	5,400.5	5,399.2	19.1	19.1	-5.81	-8.2	46.6	293.3	255.6	37.76	7.768	
5,500.0	5,482.9	5,503.2	5,500.6	19.4	19.4	-2.85	-13.1	61.9	287.4	249.0	38.46	7.473	
5,600.0	5,582.9	5,604.6	5,600.2	19.8	19.8	0.88	-19.0	80.5	281.2	242.0	39.17	7.180	
5,700.0	5,682.9	5,704.5	5,697.4	20.1	20.1	5.40	-25.8	102.1	275.4	235.5	39.89	6.904	
5,800.0	5,782.9	5,802.7	5,792.2	20.5	20.5	10.69	-33.5	126.4	271.0	230.3	40.63	6.670	
5,900.0	5,882.9	5,898.8	5,884.4	20.8	20.8	16.43	-41.7	152.3	268.9	227.6	41.35	6.503	
5,919.5	5,902.4	5,917.5	5,902.4	20.9	20.9	17.56	-43.3	157.3	268.9	227.4	41.49	6.480	
6,000.0	5,982.9	5,994.7	5,976.5	21.1	21.2	22.20	-49.9	178.1	269.8	227.8	42.06	6.415	
6,100.0	6,082.9	6,090.7	6,068.5	21.5	21.6	27.88	-58.0	204.0	273.7	230.9	42.75	6.401	
6,200.0	6,182.9	6,186.6	6,160.5	21.8	21.9	33.36	-66.2	229.8	280.3	236.9	43.42	6.456	
6,300.0	6,282.9	6,282.5	6,252.5	22.2	22.3	38.56	-74.4	255.7	289.6	245.5	44.07	6.571	
6,400.0	6,382.9	6,378.4	6,344.5	22.5	22.7	43.42	-82.6	281.6	301.2	256.5	44.70	6.739	
6,500.0	6,482.9	6,474.3	6,436.5	22.8	23.1	47.91	-90.8	307.4	315.0	269.7	45.33	6.949	
6,600.0	6,582.9	6,570.3	6,528.5	23.2	23.5	52.03	-99.0	333.3	330.6	284.7	45.95	7.195	
6,700.0	6,682.9	6,666.2	6,620.5	23.5	23.9	55.77	-107.1	359.1	347.8	301.3	46.57	7.469	
6,800.0	6,782.9	6,762.1	6,712.5	23.9	24.3	59.17	-115.3	385.0	366.4	319.2	47.19	7.764	
6,900.0	6,882.9	6,858.0	6,804.5	24.2	24.7	62.25	-123.5	410.9	386.2	338.4	47.82	8.076	
7,000.0	6,982.9	6,953.9	6,896.5	24.6	25.1	65.02	-131.7	436.7	407.0	358.5	48.45	8.400	
7,100.0	7,082.9	7,049.8	6,988.5	24.9	25.5	67.54	-139.9	462.6	428.6	379.5	49.08	8.732	
7,200.0	7,182.9	7,145.8	7,080.5	25.3	26.0	69.81	-148.1	488.4	451.0	401.3	49.72	9.070	
7,300.0	7,282.9	7,241.7	7,172.5	25.6	26.4	71.88	-156.2	514.3	474.0	423.6	50.37	9.410	
7,400.0	7,382.9	7,337.6	7,264.5	25.9	26.8	73.75	-164.4	540.1	497.5	446.5	51.02	9.752	
7,500.0	7,482.9	7,433.5	7,356.5	26.3	27.3	75.46	-172.6	566.0	521.5	469.9	51.67	10.093	
7,600.0	7,582.9	7,529.4	7,448.5	26.6	27.7	77.02	-180.8	591.9	546.0	493.6	52.33	10.432	
7,700.0	7,682.9	7,625.4	7,540.5	27.0	28.1	78.45	-189.0	617.7	570.7	517.7	53.00	10.769	
7,800.0	7,782.9	7,721.3	7,632.5	27.3	28.6	79.76	-197.2	643.6	595.8	542.2	53.67	11.102	
7,900.0	7,882.9	7,817.2	7,724.5	27.7	29.0	80.97	-205.3	669.4	621.2	566.9	54.34	11.432	
8,000.0	7,982.9	7,913.1	7,816.6	28.0	29.5	82.08	-213.5	695.3	646.8	591.8	55.01	11.757	
8,100.0	8,082.9	8,009.0	7,908.6	28.4	29.9	83.11	-221.7	721.1	672.6	616.9	55.69	12.077	
8,200.0	8,182.9	8,105.0	8,000.6	28.7	30.4	84.07	-229.9	747.0	698.6	642.3	56.37	12.393	
8,300.0	8,282.9	8,200.9	8,092.6	29.1	30.8	84.95	-238.1	772.9	724.8	667.8	57.06	12.703	
8,400.0	8,382.9	8,296.8	8,184.6	29.4	31.3	85.78	-246.2	798.7	751.1	693.4	57.74	13.008	
8,500.0	8,482.9	8,392.7	8,276.6	29.8	31.8	86.55	-254.4	824.6	777.6	719.2	58.43	13.308	
8,600.0	8,582.9	8,488.6	8,368.6	30.1	32.2	87.26	-262.6	850.4	804.2	745.1	59.12	13.602	
8,700.0	8,682.9	8,612.4	8,487.7	30.5	32.8	88.08	-272.6	882.1	829.7	769.4	60.23	13.775	
8,800.0	8,782.9	8,747.3	8,619.2	30.8	33.4	88.78	-281.8	911.2	851.1	789.7	61.40	13.861	
8,900.0	8,882.9	8,884.9	8,754.5	31.2	34.0	89.31	-289.3	934.7	868.1	805.6	62.49	13.891	
9,000.0	8,982.9	9,024.6	8,893.0	31.5	34.5	89.69	-294.8	952.2	880.6	817.1	63.50	13.869	
9,100.0	9,082.9	9,165.8	9,033.7	31.9	35.1	89.92	-298.3	963.3	888.5	824.1	64.39	13.798	
9,200.0	9,182.9	9,307.8	9,175.7	32.2	35.5	90.01	-299.8	967.8	891.6	826.5	65.18	13.680	
9,300.0	9,282.9	9,415.0	9,282.9	32.6	35.9	93.55	-299.8	967.9	891.7	825.9	65.87	13.538	
9,400.0	9,381.4	9,516.2	9,383.9	32.9	36.2	94.21	-295.8	967.9	892.8	826.3	66.50	13.425	
9,500.0	9,474.5	9,620.9	9,485.4	33.2	36.5	94.81	-271.1	967.7	895.1	828.1	67.06	13.348	
9,600.0	9,558.1	9,728.8	9,581.8	33.4	36.7	95.19	-223.2	967.4	898.6	831.0	67.53	13.306	
9,700.0	9,628.4	9,839.6	9,667.1	33.7	36.9	95.35	-152.9	966.9	902.9	835.0	67.93	13.293	
9,800.0	9,682.6	9,952.8	9,735.1	33.9	37.0	95.25	-62.7	966.3	908.0	839.7	68.27	13.299	
9,900.0	9,718.1	10,067.8	9,780.5	34.0	37.0	94.89	42.7	965.6	913.3	844.7	68.60	13.313	
10,000.0	9,733.4	10,183.7	9,799.5	34.2	37.0	94.29	156.6	964.8	918.7	849.8	68.94	13.327	

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Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Emerald Federal Com 513H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,100.0	9,734.0	10,286.5	9,800.0	34.4	37.0	94.10	259.5	964.1	923.1	853.8	69.30	13.321	
10,200.0	9,734.0	10,386.5	9,800.0	34.7	37.0	94.10	359.4	963.5	924.2	854.5	69.76	13.249	
10,300.0	9,734.0	10,486.5	9,800.0	35.0	37.0	94.10	459.4	962.8	924.3	853.9	70.34	13.140	
10,400.0	9,734.0	10,586.5	9,800.0	35.3	37.1	94.10	559.4	962.1	924.3	853.2	71.03	13.013	
10,500.0	9,734.0	10,686.5	9,800.0	35.8	37.4	94.10	659.4	961.5	924.3	852.5	71.82	12.869	
10,600.0	9,734.0	10,786.5	9,800.0	36.2	37.7	94.10	759.4	960.8	924.3	851.6	72.73	12.709	
10,700.0	9,734.0	10,886.5	9,800.0	36.8	38.1	94.10	859.4	960.1	924.3	850.6	73.74	12.536	
10,800.0	9,734.0	10,986.5	9,800.0	37.3	38.6	94.10	959.4	959.4	924.4	849.5	74.84	12.351	
10,900.0	9,734.0	11,086.5	9,800.0	37.9	39.2	94.10	1,059.4	958.8	924.4	848.3	76.04	12.156	
11,000.0	9,734.0	11,186.5	9,800.0	38.6	39.8	94.10	1,159.4	958.1	924.4	847.1	77.33	11.954	
11,100.0	9,734.0	11,286.5	9,800.0	39.3	40.5	94.10	1,259.4	957.4	924.4	845.7	78.70	11.746	
11,200.0	9,734.0	11,386.5	9,800.0	40.1	41.2	94.10	1,359.4	956.8	924.4	844.3	80.16	11.533	
11,300.0	9,734.0	11,486.5	9,800.0	40.8	42.0	94.10	1,459.4	956.1	924.5	842.8	81.69	11.317	
11,400.0	9,734.0	11,586.5	9,800.0	41.7	42.7	94.10	1,559.4	955.4	924.5	841.2	83.29	11.099	
11,500.0	9,734.0	11,686.5	9,800.0	42.5	43.6	94.10	1,659.4	954.7	924.5	839.5	84.96	10.881	
11,600.0	9,734.0	11,786.5	9,800.0	43.4	44.4	94.10	1,759.4	954.1	924.5	837.8	86.70	10.664	
11,700.0	9,734.0	11,886.5	9,800.0	44.3	45.3	94.10	1,859.4	953.4	924.6	836.1	88.49	10.448	
11,800.0	9,734.0	11,986.5	9,800.0	45.3	46.2	94.10	1,959.4	952.7	924.6	834.2	90.34	10.234	
11,900.0	9,734.0	12,086.5	9,800.0	46.2	47.1	94.10	2,059.4	952.1	924.6	832.3	92.25	10.023	
12,000.0	9,734.0	12,186.5	9,800.0	47.2	48.1	94.10	2,159.4	951.4	924.6	830.4	94.21	9.815	
12,100.0	9,734.0	12,286.5	9,800.0	48.2	49.1	94.09	2,259.4	950.7	924.6	828.4	96.21	9.611	
12,200.0	9,734.0	12,386.5	9,800.0	49.3	50.1	94.09	2,359.4	950.0	924.7	826.4	98.25	9.411	
12,300.0	9,734.0	12,486.5	9,800.0	50.3	51.1	94.09	2,459.4	949.4	924.7	824.3	100.34	9.215	
12,400.0	9,734.0	12,586.5	9,800.0	51.4	52.2	94.09	2,559.4	948.7	924.7	822.2	102.47	9.024	
12,500.0	9,734.0	12,686.5	9,800.0	52.5	53.2	94.09	2,659.4	948.0	924.7	820.1	104.63	8.838	
12,600.0	9,734.0	12,786.5	9,800.0	53.6	54.3	94.09	2,759.4	947.4	924.8	817.9	106.83	8.656	
12,700.0	9,734.0	12,886.5	9,800.0	54.7	55.4	94.09	2,859.4	946.7	924.8	815.7	109.06	8.479	
12,800.0	9,734.0	12,986.5	9,800.0	55.9	56.5	94.09	2,959.4	946.0	924.8	813.5	111.32	8.307	
12,900.0	9,734.0	13,086.5	9,800.0	57.0	57.7	94.09	3,059.4	945.3	924.8	811.2	113.61	8.140	
13,000.0	9,734.0	13,186.5	9,800.0	58.2	58.8	94.09	3,159.4	944.7	924.8	808.9	115.93	7.978	
13,100.0	9,734.0	13,286.5	9,800.0	59.4	60.0	94.09	3,259.4	944.0	924.9	806.6	118.27	7.820	
13,200.0	9,734.0	13,386.5	9,800.0	60.6	61.1	94.09	3,359.4	943.3	924.9	804.2	120.63	7.667	
13,300.0	9,734.0	13,486.5	9,800.0	61.8	62.3	94.09	3,459.4	942.7	924.9	801.9	123.02	7.518	
13,400.0	9,734.0	13,586.5	9,800.0	63.0	63.5	94.09	3,559.4	942.0	924.9	799.5	125.43	7.374	
13,500.0	9,734.0	13,686.5	9,800.0	64.2	64.7	94.09	3,659.4	941.3	924.9	797.1	127.86	7.234	
13,600.0	9,734.0	13,786.5	9,800.0	65.4	65.9	94.09	3,759.4	940.6	925.0	794.7	130.30	7.099	
13,700.0	9,734.0	13,886.5	9,800.0	66.7	67.2	94.09	3,859.4	940.0	925.0	792.2	132.77	6.967	
13,800.0	9,734.0	13,986.5	9,800.0	67.9	68.4	94.09	3,959.4	939.3	925.0	789.8	135.25	6.839	
13,900.0	9,734.0	14,086.5	9,800.0	69.2	69.6	94.09	4,059.4	938.6	925.0	787.3	137.75	6.715	
14,000.0	9,734.0	14,186.5	9,800.0	70.4	70.9	94.09	4,159.4	938.0	925.1	784.8	140.26	6.595	
14,100.0	9,734.0	14,286.5	9,800.0	71.7	72.1	94.09	4,259.4	937.3	925.1	782.3	142.79	6.479	
14,200.0	9,734.0	14,386.5	9,800.0	73.0	73.4	94.09	4,359.3	936.6	925.1	779.8	145.33	6.366	
14,300.0	9,734.0	14,486.5	9,800.0	74.3	74.7	94.09	4,459.3	935.9	925.1	777.2	147.88	6.256	
14,400.0	9,734.0	14,586.5	9,800.0	75.6	75.9	94.09	4,559.3	935.3	925.1	774.7	150.45	6.149	
14,500.0	9,734.0	14,686.5	9,800.0	76.9	77.2	94.09	4,659.3	934.6	925.2	772.1	153.02	6.046	
14,600.0	9,734.0	14,786.5	9,800.0	78.2	78.5	94.09	4,759.3	933.9	925.2	769.6	155.61	5.945	
14,700.0	9,734.0	14,886.5	9,800.0	79.5	79.8	94.09	4,859.3	933.3	925.2	767.0	158.21	5.848	
14,800.0	9,734.0	14,986.5	9,800.0	80.8	81.1	94.09	4,959.3	932.6	925.2	764.4	160.82	5.753	
14,900.0	9,734.0	15,086.5	9,800.0	82.1	82.4	94.09	5,059.3	931.9	925.3	761.8	163.44	5.661	
15,000.0	9,734.0	15,186.5	9,800.0	83.4	83.7	94.09	5,159.3	931.2	925.3	759.2	166.06	5.572	
15,100.0	9,734.0	15,286.5	9,800.0	84.7	85.0	94.09	5,259.3	930.6	925.3	756.6	168.70	5.485	
15,200.0	9,734.0	15,386.5	9,800.0	86.1	86.3	94.09	5,359.3	929.9	925.3	754.0	171.34	5.400	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Emerald Federal Com 513H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference	Offset	Rule Assigned:											
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				(usft)	(usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,300.0	9,734.0	15,486.5	9,800.0	87.4	87.6	94.09	5,459.3	929.2	925.3	751.3	173.99	5.318	
15,400.0	9,734.0	15,586.5	9,800.0	88.7	89.0	94.09	5,559.3	928.6	925.4	748.7	176.65	5.238	
15,500.0	9,734.0	15,686.5	9,800.0	90.1	90.3	94.09	5,659.3	927.9	925.4	746.1	179.32	5.161	
15,600.0	9,734.0	15,786.5	9,800.0	91.4	91.6	94.09	5,759.3	927.2	925.4	743.4	181.99	5.085	
15,700.0	9,734.0	15,886.5	9,800.0	92.8	93.0	94.09	5,859.3	926.5	925.4	740.8	184.67	5.011	
15,800.0	9,734.0	15,986.5	9,800.0	94.1	94.3	94.09	5,959.3	925.9	925.4	738.1	187.36	4.939	
15,900.0	9,734.0	16,086.5	9,800.0	95.5	95.6	94.09	6,059.3	925.2	925.5	735.4	190.05	4.870	
16,000.0	9,734.0	16,186.5	9,800.0	96.8	97.0	94.09	6,159.3	924.5	925.5	732.7	192.75	4.802	
16,100.0	9,734.0	16,286.5	9,800.0	98.2	98.3	94.09	6,259.3	923.8	925.5	730.1	195.45	4.735	
16,200.0	9,734.0	16,386.5	9,800.0	99.5	99.7	94.09	6,359.3	923.2	925.5	727.4	198.16	4.671	
16,300.0	9,734.0	16,486.5	9,800.0	100.9	101.0	94.09	6,459.3	922.5	925.6	724.7	200.87	4.608	
16,400.0	9,734.0	16,586.5	9,800.0	102.3	102.4	94.09	6,559.3	921.8	925.6	722.0	203.59	4.546	
16,500.0	9,734.0	16,686.5	9,800.0	103.6	103.7	94.09	6,659.3	921.2	925.6	719.3	206.31	4.486	
16,600.0	9,734.0	16,786.5	9,800.0	105.0	105.1	94.09	6,759.3	920.5	925.6	716.6	209.04	4.428	
16,700.0	9,734.0	16,886.5	9,800.0	106.4	106.5	94.09	6,859.3	919.8	925.6	713.9	211.77	4.371	
16,800.0	9,734.0	16,986.5	9,800.0	107.7	107.8	94.09	6,959.3	919.1	925.7	711.2	214.51	4.315	
16,900.0	9,734.0	17,086.5	9,800.0	109.1	109.2	94.09	7,059.3	918.5	925.7	708.4	217.25	4.261	
17,000.0	9,734.0	17,186.5	9,800.0	110.5	110.6	94.09	7,159.3	917.8	925.7	705.7	219.99	4.208	
17,100.0	9,734.0	17,286.5	9,800.0	111.9	111.9	94.09	7,259.3	917.1	925.7	703.0	222.74	4.156	
17,200.0	9,734.0	17,386.5	9,800.0	113.2	113.3	94.09	7,359.3	916.5	925.8	700.3	225.49	4.106	
17,300.0	9,734.0	17,486.5	9,800.0	114.6	114.7	94.09	7,459.3	915.8	925.8	697.5	228.24	4.056	
17,400.0	9,734.0	17,586.5	9,800.0	116.0	116.0	94.09	7,559.3	915.1	925.8	694.8	231.00	4.008	
17,500.0	9,734.0	17,686.5	9,800.0	117.4	117.4	94.09	7,659.3	914.4	925.8	692.1	233.76	3.961	
17,600.0	9,734.0	17,786.5	9,800.0	118.8	118.8	94.09	7,759.3	913.8	925.8	689.3	236.52	3.914	
17,700.0	9,734.0	17,886.5	9,800.0	120.2	120.2	94.09	7,859.3	913.1	925.9	686.6	239.29	3.869	
17,800.0	9,734.0	17,986.5	9,800.0	121.6	121.6	94.09	7,959.3	912.4	925.9	683.8	242.06	3.825	
17,900.0	9,734.0	18,086.5	9,800.0	122.9	123.0	94.09	8,059.3	911.8	925.9	681.1	244.83	3.782	
18,000.0	9,734.0	18,186.5	9,800.0	124.3	124.3	94.09	8,159.3	911.1	925.9	678.3	247.61	3.740	
18,100.0	9,734.0	18,286.5	9,800.0	125.7	125.7	94.09	8,259.3	910.4	926.0	675.6	250.38	3.698	
18,200.0	9,734.0	18,386.5	9,800.0	127.1	127.1	94.09	8,359.3	909.7	926.0	672.8	253.16	3.658	
18,300.0	9,734.0	18,486.5	9,800.0	128.5	128.5	94.09	8,459.3	909.1	926.0	670.0	255.95	3.618	
18,400.0	9,734.0	18,586.5	9,800.0	129.9	129.9	94.09	8,559.3	908.4	926.0	667.3	258.73	3.579	
18,500.0	9,734.0	18,686.5	9,800.0	131.3	131.3	94.09	8,659.3	907.7	926.0	664.5	261.52	3.541	
18,600.0	9,734.0	18,786.5	9,800.0	132.7	132.7	94.09	8,759.2	907.1	926.1	661.8	264.31	3.504	
18,700.0	9,734.0	18,886.5	9,800.0	134.1	134.1	94.09	8,859.2	906.4	926.1	659.0	267.10	3.467	
18,800.0	9,734.0	18,986.5	9,800.0	135.5	135.5	94.09	8,959.2	905.7	926.1	656.2	269.89	3.431	
18,900.0	9,734.0	19,086.5	9,800.0	136.9	136.9	94.09	9,059.2	905.0	926.1	653.4	272.69	3.396	
19,000.0	9,734.0	19,186.5	9,800.0	138.3	138.3	94.09	9,159.2	904.4	926.1	650.7	275.49	3.362	
19,100.0	9,734.0	19,286.5	9,800.0	139.7	139.7	94.09	9,259.2	903.7	926.2	647.9	278.29	3.328	
19,200.0	9,734.0	19,386.5	9,800.0	141.1	141.1	94.09	9,359.2	903.0	926.2	645.1	281.09	3.295	
19,300.0	9,734.0	19,486.5	9,800.0	142.5	142.5	94.09	9,459.2	902.4	926.2	642.3	283.89	3.263	
19,400.0	9,734.0	19,586.5	9,800.0	143.9	143.9	94.09	9,559.2	901.7	926.2	639.5	286.69	3.231	
19,500.0	9,734.0	19,686.5	9,800.0	145.3	145.3	94.09	9,659.2	901.0	926.3	636.8	289.50	3.199	
19,600.0	9,734.0	19,786.5	9,800.0	146.7	146.7	94.09	9,759.2	900.3	926.3	634.0	292.31	3.169	
19,700.0	9,734.0	19,886.5	9,800.0	148.2	148.1	94.09	9,859.2	899.7	926.3	631.2	295.12	3.139	
19,800.0	9,734.0	19,986.5	9,800.0	149.6	149.5	94.09	9,959.2	899.0	926.3	628.4	297.93	3.109	
19,900.0	9,734.0	20,086.5	9,800.0	151.0	150.9	94.09	10,059.2	898.3	926.3	625.6	300.74	3.080	
19,968.0	9,734.0	20,154.4	9,800.0	151.8	151.8	94.09	10,127.2	897.9	926.4	623.9	302.50	3.062	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Nellis Federal 03 - OH - OH												Offset Site Error:	0.0 usft
Survey Program: 471-INC-ONLY												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
11,000.0	9,734.0	9,685.7	9,683.0	38.6	227.5	84.81	3,154.4	754.1	2,127.1	1,865.5	261.64	8.130	
11,100.0	9,734.0	9,689.0	9,686.3	39.3	227.6	85.07	3,154.5	754.1	2,033.6	1,771.7	261.90	7.765	
11,200.0	9,734.0	9,692.3	9,689.6	40.1	227.6	85.32	3,154.6	754.1	1,940.7	1,678.5	262.20	7.401	
11,300.0	9,734.0	9,695.5	9,692.8	40.8	227.7	85.57	3,154.7	754.1	1,848.5	1,585.9	262.55	7.040	
11,400.0	9,734.0	9,698.8	9,696.1	41.7	227.8	85.83	3,154.9	754.1	1,757.1	1,494.2	262.95	6.682	
11,500.0	9,734.0	9,702.1	9,699.4	42.5	227.9	86.08	3,155.0	754.1	1,666.8	1,403.4	263.41	6.328	
11,600.0	9,734.0	9,705.4	9,702.7	43.4	228.0	86.34	3,155.1	754.1	1,577.6	1,313.7	263.96	5.977	
11,700.0	9,734.0	9,708.7	9,706.0	44.3	228.1	86.60	3,155.2	754.1	1,489.8	1,225.2	264.60	5.630	
11,800.0	9,734.0	9,712.0	9,709.3	45.3	228.2	86.86	3,155.3	754.1	1,403.6	1,138.2	265.36	5.289	
11,900.0	9,734.0	9,715.3	9,712.6	46.2	228.3	87.11	3,155.4	754.1	1,319.4	1,053.1	266.26	4.955	
12,000.0	9,734.0	9,718.6	9,715.9	47.2	228.4	87.37	3,155.5	754.1	1,237.4	970.1	267.34	4.629	
12,100.0	9,734.0	9,721.9	9,719.2	48.2	228.5	87.63	3,155.6	754.1	1,158.4	889.7	268.61	4.312	
12,200.0	9,734.0	9,725.3	9,722.5	49.3	228.6	87.89	3,155.7	754.1	1,082.7	812.6	270.12	4.008	
12,300.0	9,734.0	9,728.6	9,725.9	50.3	228.7	88.15	3,155.9	754.1	1,011.3	739.4	271.89	3.720	
12,400.0	9,734.0	9,731.9	9,729.2	51.4	228.8	88.41	3,156.0	754.1	945.1	671.2	273.93	3.450	
12,500.0	9,734.0	9,735.3	9,732.6	52.5	228.8	88.68	3,156.1	754.1	885.3	609.0	276.22	3.205	
12,600.0	9,734.0	9,738.6	9,735.9	53.6	228.9	88.94	3,156.2	754.1	833.1	554.4	278.72	2.989	
12,700.0	9,734.0	9,742.0	9,739.3	54.7	229.0	89.20	3,156.3	754.1	790.3	509.0	281.30	2.809	
12,800.0	9,734.0	9,745.4	9,742.6	55.9	229.1	89.46	3,156.4	754.1	758.2	474.4	283.78	2.672	
12,900.0	9,734.0	9,748.7	9,746.0	57.0	229.2	89.73	3,156.5	754.1	738.4	452.5	285.92	2.583	
12,998.4	9,734.0	9,752.0	9,749.3	58.2	229.3	89.99	3,156.6	754.1	731.8	444.4	287.49	2.546 CC	
13,000.0	9,734.0	9,752.1	9,749.4	58.2	229.3	89.99	3,156.6	754.1	731.8	444.3	287.51	2.545 ES, SF	
13,100.0	9,734.0	9,755.5	9,752.7	59.4	229.4	90.26	3,156.8	754.1	738.9	450.5	288.41	2.562	
13,200.0	9,734.0	9,758.9	9,756.1	60.6	229.5	90.52	3,156.9	754.1	759.1	470.5	288.59	2.630	
13,300.0	9,734.0	9,762.3	9,759.5	61.8	229.6	90.79	3,157.0	754.1	791.5	503.3	288.16	2.747	
13,400.0	9,734.0	9,765.7	9,762.9	63.0	229.7	91.05	3,157.1	754.1	834.7	547.4	287.28	2.905	
13,500.0	9,734.0	9,769.1	9,766.3	64.2	229.8	91.32	3,157.2	754.1	887.1	600.9	286.14	3.100	
13,600.0	9,734.0	9,772.5	9,769.7	65.4	229.9	91.59	3,157.3	754.1	947.2	662.3	284.87	3.325	
13,700.0	9,734.0	9,775.9	9,773.1	66.7	230.0	91.85	3,157.5	754.1	1,013.6	730.0	283.60	3.574	
13,800.0	9,734.0	9,779.3	9,776.6	67.9	230.1	92.12	3,157.6	754.1	1,085.1	802.7	282.37	3.843	
13,900.0	9,734.0	9,782.8	9,780.0	69.2	230.2	92.39	3,157.7	754.1	1,160.8	879.6	281.23	4.128	
14,000.0	9,734.0	9,786.2	9,783.4	70.4	230.3	92.66	3,157.8	754.1	1,240.0	959.8	280.19	4.426	
14,100.0	9,734.0	9,789.6	9,786.9	71.7	230.4	92.93	3,157.9	754.1	1,322.0	1,042.8	279.27	4.734	
14,200.0	9,734.0	9,793.1	9,790.3	73.0	230.5	93.19	3,158.0	754.1	1,406.3	1,127.9	278.44	5.051	
14,300.0	9,734.0	9,796.5	9,793.8	74.3	230.6	93.46	3,158.2	754.1	1,492.6	1,214.9	277.72	5.375	
14,400.0	9,734.0	9,800.0	9,797.2	75.6	230.7	93.73	3,158.3	754.1	1,580.5	1,303.4	277.08	5.704	
14,500.0	9,734.0	9,803.5	9,800.7	76.9	230.8	94.00	3,158.4	754.1	1,669.7	1,393.2	276.52	6.038	
14,600.0	9,734.0	9,806.9	9,804.2	78.2	230.9	94.27	3,158.5	754.1	1,760.1	1,484.0	276.04	6.376	
14,700.0	9,734.0	9,810.4	9,807.7	79.5	231.0	94.55	3,158.6	754.1	1,851.4	1,575.8	275.61	6.717	
14,800.0	9,734.0	9,813.9	9,811.1	80.8	231.1	94.82	3,158.7	754.1	1,943.6	1,668.4	275.25	7.061	
14,900.0	9,734.0	9,817.4	9,814.6	82.1	231.2	95.09	3,158.9	754.1	2,036.5	1,761.6	274.93	7.408	
15,000.0	9,734.0	9,820.9	9,818.1	83.4	231.2	95.36	3,159.0	754.1	2,130.1	1,855.5	274.65	7.756	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Offset Wells - Hudson Federal 31 #2 - OH - P & A												Offset Site Error:	0.0 usft
Survey Program: 1000-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,000.0	9,734.0	9,776.5	9,776.5	110.5	183.1	-90.00	9,202.4	-477.5	2,102.9	1,877.0	225.96	9.306	
17,100.0	9,734.0	9,776.5	9,776.5	111.9	183.1	-90.00	9,202.4	-477.5	2,005.4	1,778.6	226.80	8.842	
17,200.0	9,734.0	9,776.5	9,776.5	113.2	183.1	-90.00	9,202.4	-477.5	1,908.2	1,680.5	227.75	8.378	
17,300.0	9,734.0	9,776.5	9,776.5	114.6	183.1	-90.00	9,202.4	-477.5	1,811.3	1,582.4	228.84	7.915	
17,400.0	9,734.0	9,776.5	9,776.5	116.0	183.1	-90.00	9,202.4	-477.5	1,714.7	1,484.6	230.08	7.453	
17,500.0	9,734.0	9,776.5	9,776.5	117.4	183.1	-90.00	9,202.4	-477.5	1,618.6	1,387.1	231.51	6.991	
17,600.0	9,734.0	9,776.5	9,776.5	118.8	183.1	-90.00	9,202.4	-477.5	1,522.9	1,289.7	233.18	6.531	
17,700.0	9,734.0	9,776.5	9,776.5	120.2	183.1	-90.00	9,202.4	-477.5	1,427.8	1,192.7	235.12	6.073	
17,800.0	9,734.0	9,776.5	9,776.5	121.6	183.1	-90.00	9,202.4	-477.5	1,333.5	1,096.1	237.39	5.617	
17,900.0	9,734.0	9,776.5	9,776.5	122.9	183.1	-90.00	9,202.4	-477.5	1,240.1	1,000.0	240.08	5.165	
18,000.0	9,734.0	9,776.5	9,776.5	124.3	183.1	-90.00	9,202.4	-477.5	1,147.7	904.4	243.27	4.718	
18,100.0	9,734.0	9,776.5	9,776.5	125.7	183.1	-90.00	9,202.4	-477.5	1,056.8	809.7	247.08	4.277	
18,200.0	9,734.0	9,776.5	9,776.5	127.1	183.1	-90.00	9,202.4	-477.5	967.6	715.9	251.66	3.845	
18,300.0	9,734.0	9,776.5	9,776.5	128.5	183.1	-90.00	9,202.4	-477.5	880.8	623.6	257.17	3.425	
18,400.0	9,734.0	9,776.5	9,776.5	129.9	183.1	-90.00	9,202.4	-477.5	797.0	533.2	263.81	3.021	
18,500.0	9,734.0	9,776.5	9,776.5	131.3	183.1	-90.00	9,202.4	-477.5	717.5	445.7	271.77	2.640	
18,600.0	9,734.0	9,776.5	9,776.5	132.7	183.1	-90.00	9,202.4	-477.5	643.6	362.5	281.17	2.289	
18,700.0	9,734.0	9,776.5	9,776.5	134.1	183.1	-90.00	9,202.4	-477.5	577.7	285.8	291.87	1.979	
18,800.0	9,734.0	9,776.5	9,776.5	135.5	183.1	-90.00	9,202.4	-477.5	522.7	219.5	303.21	1.724	
18,900.0	9,734.0	9,776.5	9,776.5	136.9	183.1	-90.00	9,202.4	-477.5	482.4	168.8	313.59	1.538	
19,000.0	9,734.0	9,776.5	9,776.5	138.3	183.1	-90.00	9,202.4	-477.5	460.7	140.1	320.62	1.437	Level 3
19,052.5	9,734.0	9,776.5	9,776.5	139.0	183.1	-90.00	9,202.4	-477.5	457.7	135.5	322.19	1.421	Level 3, CC, ES, SF
19,100.0	9,734.0	9,776.5	9,776.5	139.7	183.1	-90.00	9,202.4	-477.5	460.2	138.0	322.15	1.428	Level 3
19,200.0	9,734.0	9,776.5	9,776.5	141.1	183.1	-90.00	9,202.4	-477.5	480.9	162.9	317.94	1.513	
19,300.0	9,734.0	9,776.5	9,776.5	142.5	183.1	-90.00	9,202.4	-477.5	520.3	210.6	309.78	1.680	
19,400.0	9,734.0	9,776.5	9,776.5	143.9	183.1	-90.00	9,202.4	-477.5	574.7	274.6	300.03	1.915	
19,500.0	9,734.0	9,776.5	9,776.5	145.3	183.1	-90.00	9,202.4	-477.5	640.1	349.7	290.40	2.204	
19,600.0	9,734.0	9,776.5	9,776.5	146.7	183.1	-90.00	9,202.4	-477.5	713.6	431.9	281.70	2.533	
19,700.0	9,734.0	9,776.5	9,776.5	148.2	183.1	-90.00	9,202.4	-477.5	792.9	518.8	274.18	2.892	
19,800.0	9,734.0	9,776.5	9,776.5	149.6	183.1	-90.00	9,202.4	-477.5	876.5	608.7	267.81	3.273	
19,900.0	9,734.0	9,776.5	9,776.5	151.0	183.1	-90.00	9,202.4	-477.5	963.2	700.7	262.46	3.670	
19,968.0	9,734.0	9,776.5	9,776.5	151.8	183.1	-90.00	9,202.4	-477.5	1,023.5	761.7	261.81	3.909	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 301H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	2.8	2.8	0.0	0.0	-3.97	159.9	-11.1	160.3				
100.0	100.0	102.8	102.8	0.1	0.1	-3.97	159.9	-11.1	160.3	160.0	0.27	586.020	
200.0	200.0	202.8	202.8	0.5	0.5	-3.97	159.9	-11.1	160.3	159.3	0.99	161.829	
300.0	300.0	302.8	302.8	0.8	0.9	-3.97	159.9	-11.1	160.3	158.6	1.71	93.877	
400.0	400.0	402.8	402.8	1.2	1.2	-3.97	159.9	-11.1	160.3	157.9	2.42	66.115	
500.0	500.0	502.8	502.8	1.6	1.6	-3.97	159.9	-11.1	160.3	157.1	3.14	51.025	
600.0	600.0	602.8	602.8	1.9	1.9	-3.97	159.9	-11.1	160.3	156.4	3.86	41.544	
700.0	700.0	702.8	702.8	2.3	2.3	-3.97	159.9	-11.1	160.3	155.7	4.58	35.034	
800.0	800.0	802.8	802.8	2.6	2.7	-3.97	159.9	-11.1	160.3	155.0	5.29	30.287	
900.0	900.0	902.8	902.8	3.0	3.0	-3.97	159.9	-11.1	160.3	154.3	6.01	26.674	
1,000.0	1,000.0	1,002.8	1,002.8	3.4	3.4	-3.97	159.9	-11.1	160.3	153.6	6.73	23.831	
1,100.0	1,100.0	1,102.8	1,102.8	3.7	3.7	-3.97	159.9	-11.1	160.3	152.8	7.44	21.535	
1,200.0	1,200.0	1,202.8	1,202.8	4.1	4.1	-3.97	159.9	-11.1	160.3	152.1	8.16	19.643	
1,300.0	1,300.0	1,302.8	1,302.8	4.4	4.4	-3.97	159.9	-11.1	160.3	151.4	8.88	18.057	
1,400.0	1,400.0	1,402.8	1,402.8	4.8	4.8	-3.97	159.9	-11.1	160.3	150.7	9.59	16.707	
1,500.0	1,500.0	1,502.8	1,502.8	5.2	5.2	-3.97	159.9	-11.1	160.3	150.0	10.31	15.545	
1,600.0	1,600.0	1,602.8	1,602.8	5.5	5.5	-3.97	159.9	-11.1	160.3	149.3	11.03	14.535	
1,700.0	1,700.0	1,702.8	1,702.8	5.9	5.9	-3.97	159.9	-11.1	160.3	148.5	11.74	13.648	
1,800.0	1,800.0	1,802.8	1,802.8	6.2	6.2	-3.97	159.9	-11.1	160.3	147.8	12.46	12.862	
1,900.0	1,900.0	1,902.8	1,902.8	6.6	6.6	-3.97	159.9	-11.1	160.3	147.1	13.18	12.163	
2,000.0	2,000.0	2,002.9	2,002.9	6.9	7.0	-3.97	159.9	-11.1	160.3	146.4	13.90	11.535	
2,002.1	2,002.1	2,005.0	2,005.0	6.9	7.0	-169.70	159.9	-11.1	160.3	146.4	13.91	11.523 CC, ES	
2,100.0	2,100.0	2,105.2	2,105.2	7.3	7.3	-170.44	159.0	-12.8	161.2	146.6	14.59	11.053	
2,200.0	2,199.8	2,207.2	2,207.0	7.6	7.6	-172.51	156.3	-17.7	164.3	149.1	15.25	10.774	
2,300.0	2,299.5	2,308.6	2,308.0	7.9	8.0	-175.76	152.0	-25.7	169.9	154.0	15.92	10.674	
2,400.0	2,398.8	2,409.2	2,407.9	8.3	8.3	-179.89	146.1	-36.8	177.8	161.2	16.60	10.711	
2,500.0	2,498.1	2,509.0	2,506.4	8.6	8.7	175.32	138.5	-50.8	186.0	168.7	17.28	10.763	
2,600.0	2,597.5	2,607.3	2,603.1	8.9	9.0	170.54	130.3	-66.1	195.2	177.3	17.97	10.865	
2,700.0	2,696.8	2,705.6	2,699.8	9.3	9.4	166.21	122.1	-81.3	205.8	187.1	18.67	11.023	
2,800.0	2,796.1	2,803.9	2,796.6	9.6	9.8	162.30	113.8	-96.6	217.3	198.0	19.37	11.222	
2,900.0	2,895.5	2,902.1	2,893.3	10.0	10.1	158.80	105.6	-111.9	229.8	209.8	20.07	11.450	
3,000.0	2,994.8	3,000.4	2,990.0	10.4	10.5	155.67	97.4	-127.2	243.1	222.3	20.78	11.697	
3,100.0	3,094.2	3,098.7	3,086.7	10.7	10.9	152.86	89.2	-142.4	257.0	235.5	21.50	11.955	
3,200.0	3,193.5	3,196.9	3,183.5	11.1	11.3	150.34	80.9	-157.7	271.5	249.3	22.22	12.219	
3,300.0	3,292.8	3,295.2	3,280.2	11.4	11.7	148.08	72.7	-173.0	286.4	263.5	22.94	12.485	
3,400.0	3,392.2	3,393.5	3,376.9	11.8	12.0	146.04	64.5	-188.2	301.7	278.1	23.67	12.750	
3,500.0	3,491.5	3,491.7	3,473.6	12.2	12.4	144.20	56.3	-203.5	317.4	293.0	24.40	13.011	
3,600.0	3,590.8	3,590.0	3,570.4	12.5	12.8	142.53	48.0	-218.8	333.4	308.2	25.13	13.266	
3,700.0	3,690.2	3,688.3	3,667.1	12.9	13.2	141.01	39.8	-234.0	349.6	323.7	25.86	13.516	
3,800.0	3,789.5	3,786.6	3,763.8	13.3	13.6	139.63	31.6	-249.3	366.0	339.4	26.60	13.759	
3,900.0	3,888.8	3,884.8	3,860.6	13.7	14.0	138.37	23.4	-264.6	382.7	355.3	27.34	13.994	
4,000.0	3,988.2	3,983.1	3,957.3	14.0	14.4	137.21	15.1	-279.8	399.4	371.4	28.09	14.221	
4,100.0	4,087.5	4,081.4	4,054.0	14.4	14.8	136.14	6.9	-295.1	416.4	387.6	28.83	14.441	
4,200.0	4,186.9	4,179.6	4,150.7	14.8	15.2	135.16	-1.3	-310.4	433.5	403.9	29.58	14.653	
4,300.0	4,286.2	4,277.9	4,247.5	15.2	15.6	134.25	-9.5	-325.6	450.6	420.3	30.33	14.858	
4,400.0	4,385.5	4,376.2	4,344.2	15.5	16.0	133.41	-17.8	-340.9	467.9	436.8	31.08	15.055	
4,500.0	4,484.9	4,474.4	4,440.9	15.9	16.4	132.63	-26.0	-356.2	485.3	453.5	31.83	15.245	
4,600.0	4,584.2	4,572.7	4,537.6	16.3	16.9	131.90	-34.2	-371.4	502.8	470.2	32.59	15.428	
4,700.0	4,683.5	4,671.0	4,634.4	16.7	17.3	131.26	-42.4	-386.7	520.3	486.9	33.34	15.604	
4,800.0	4,783.1	4,769.4	4,731.2	17.0	17.7	130.69	-50.7	-402.0	536.5	502.4	34.09	15.735	
4,900.0	4,882.9	4,867.9	4,828.2	17.4	18.1	129.87	-58.9	-417.3	550.5	515.7	34.83	15.805	
5,000.0	4,982.9	4,966.4	4,925.1	17.8	18.5	128.79	-67.2	-432.6	562.6	527.1	35.56	15.821	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 301H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,100.0	5,082.9	5,064.8	5,022.0	18.1	18.9	-66.84	-75.4	-447.9	573.6	537.3	36.27	15.813	
5,200.0	5,182.9	5,163.2	5,118.9	18.4	19.3	-68.18	-83.6	-463.2	584.8	547.9	36.98	15.814	
5,300.0	5,282.9	5,261.7	5,215.8	18.8	19.7	-69.47	-91.9	-478.5	596.4	558.7	37.69	15.824	
5,400.0	5,382.9	5,360.1	5,312.7	19.1	20.2	-70.71	-100.1	-493.8	608.3	569.9	38.40	15.841	
5,500.0	5,482.9	5,458.5	5,409.6	19.4	20.6	-71.90	-108.4	-509.1	620.4	581.3	39.11	15.865	
5,600.0	5,582.9	5,557.0	5,506.5	19.8	21.0	-73.05	-116.6	-524.4	632.8	593.0	39.81	15.894	
5,700.0	5,682.9	5,655.4	5,603.3	20.1	21.4	-74.16	-124.8	-539.7	645.5	604.9	40.52	15.929	
5,800.0	5,782.9	5,753.8	5,700.2	20.5	21.8	-75.22	-133.1	-554.9	658.3	617.1	41.23	15.968	
5,900.0	5,882.9	5,852.3	5,797.1	20.8	22.3	-76.24	-141.3	-570.2	671.4	629.5	41.93	16.011	
6,000.0	5,982.9	5,950.7	5,894.0	21.1	22.7	-77.22	-149.5	-585.5	684.7	642.1	42.64	16.058	
6,100.0	6,082.9	6,049.1	5,990.9	21.5	23.1	-78.17	-157.8	-600.8	698.2	654.8	43.35	16.108	
6,200.0	6,182.9	6,147.6	6,087.8	21.8	23.5	-79.08	-166.0	-616.1	711.9	667.8	44.05	16.160	
6,300.0	6,282.9	6,246.0	6,184.7	22.2	23.9	-79.95	-174.3	-631.4	725.7	680.9	44.76	16.214	
6,400.0	6,382.9	6,344.4	6,281.5	22.5	24.3	-80.80	-182.5	-646.7	739.7	694.2	45.46	16.270	
6,500.0	6,482.9	6,442.8	6,378.4	22.8	24.8	-81.61	-190.7	-662.0	753.9	707.7	46.17	16.328	
6,600.0	6,582.9	6,541.3	6,475.3	23.2	25.2	-82.39	-199.0	-677.3	768.2	721.3	46.88	16.387	
6,700.0	6,682.9	6,639.7	6,572.2	23.5	25.6	-83.15	-207.2	-692.6	782.6	735.0	47.58	16.447	
6,800.0	6,782.9	6,738.1	6,669.1	23.9	26.0	-83.87	-215.4	-707.9	797.2	748.9	48.29	16.508	
6,900.0	6,882.9	6,836.6	6,766.0	24.2	26.5	-84.57	-223.7	-723.2	811.8	762.8	49.00	16.569	
7,000.0	6,982.9	6,935.0	6,862.9	24.6	26.9	-85.25	-231.9	-738.5	826.6	776.9	49.70	16.631	
7,100.0	7,082.9	7,033.4	6,959.7	24.9	27.3	-85.90	-240.2	-753.8	841.6	791.1	50.41	16.694	
7,200.0	7,182.9	7,131.9	7,056.6	25.3	27.7	-86.53	-248.4	-769.0	856.6	805.5	51.12	16.756	
7,300.0	7,282.9	7,230.3	7,153.5	25.6	28.1	-87.14	-256.6	-784.3	871.7	819.9	51.83	16.819	
7,400.0	7,382.9	7,328.7	7,250.4	25.9	28.6	-87.73	-264.9	-799.6	886.9	834.4	52.54	16.881	
7,500.0	7,482.9	7,427.1	7,347.3	26.3	29.0	-88.30	-273.1	-814.9	902.2	849.0	53.25	16.944	
7,600.0	7,582.9	7,525.6	7,444.2	26.6	29.4	-88.85	-281.4	-830.2	917.6	863.6	53.96	17.006	
7,700.0	7,682.9	7,643.0	7,559.9	27.0	29.9	-89.45	-290.8	-847.8	932.6	877.7	54.82	17.012	
7,800.0	7,782.9	7,782.3	7,698.0	27.3	30.5	-89.99	-299.4	-863.7	944.0	888.2	55.79	16.920	
7,900.0	7,882.9	7,923.0	7,838.3	27.7	31.0	-90.31	-304.8	-873.7	951.1	894.4	56.68	16.782	
8,000.0	7,982.9	8,064.6	7,979.7	28.0	31.5	-90.44	-306.9	-877.7	953.9	896.5	57.46	16.601	
8,100.0	8,082.9	8,170.6	8,085.7	28.4	31.8	-90.44	-306.9	-877.7	954.0	895.8	58.14	16.408	
8,200.0	8,182.9	8,270.6	8,185.7	28.7	32.1	-90.44	-306.9	-877.7	954.0	895.2	58.81	16.220	
8,300.0	8,282.9	8,370.6	8,285.7	29.1	32.4	-90.44	-306.9	-877.7	954.0	894.5	59.49	16.037	
8,377.0	8,359.9	8,447.6	8,362.7	29.3	32.6	-90.40	-306.2	-877.7	954.0	894.0	60.00	15.898	
8,400.0	8,382.9	8,470.5	8,385.5	29.4	32.7	-90.29	-304.4	-877.8	954.0	893.8	60.16	15.857	
8,500.0	8,482.9	8,566.2	8,479.1	29.8	33.0	-89.13	-285.2	-877.9	954.2	893.4	60.83	15.687	
8,600.0	8,582.9	8,650.0	8,556.5	30.1	33.1	-87.22	-253.3	-878.1	955.9	894.4	61.47	15.551	
8,700.0	8,682.9	8,725.0	8,620.1	30.5	33.3	-84.85	-213.6	-878.4	960.7	898.7	62.03	15.488	
8,800.0	8,782.9	8,782.2	8,663.9	30.8	33.3	-82.68	-177.0	-878.6	970.3	908.0	62.39	15.553	
8,900.0	8,882.9	8,830.1	8,697.1	31.2	33.4	-80.66	-142.5	-878.9	986.1	923.6	62.49	15.779	
9,000.0	8,982.9	8,869.0	8,721.4	31.5	33.4	-78.90	-112.1	-879.1	1,008.8	946.5	62.29	16.194	
9,100.0	9,082.9	8,900.0	8,738.9	31.9	33.4	-77.43	-86.5	-879.3	1,038.5	976.8	61.78	16.811	
9,200.0	9,182.9	8,925.0	8,751.8	32.2	33.4	-76.21	-65.1	-879.4	1,075.4	1,014.4	61.00	17.630	
9,300.0	9,282.9	8,950.0	8,763.6	32.6	33.4	-69.97	-43.0	-879.6	1,118.7	1,058.6	60.06	18.626	
9,400.0	9,381.4	8,975.0	8,774.2	32.9	33.4	-63.42	-20.4	-879.7	1,163.2	1,104.2	58.98	19.723	
9,500.0	9,474.5	9,000.0	8,783.6	33.2	33.3	-57.76	2.8	-879.9	1,204.8	1,147.0	57.82	20.838	
9,600.0	9,558.1	9,025.0	8,791.7	33.4	33.3	-53.16	26.4	-880.1	1,241.5	1,184.8	56.70	21.899	
9,700.0	9,628.4	9,063.1	8,801.8	33.7	33.3	-49.44	63.1	-880.3	1,271.4	1,215.6	55.81	22.781	
9,800.0	9,682.6	9,100.0	8,808.7	33.9	33.3	-46.92	99.4	-880.6	1,293.3	1,238.2	55.11	23.469	
9,900.0	9,718.1	9,125.0	8,811.7	34.0	33.3	-45.57	124.2	-880.7	1,306.1	1,251.5	54.62	23.912	
10,000.0	9,733.4	9,163.4	8,813.9	34.2	33.2	-45.09	162.5	-881.0	1,309.4	1,254.9	54.54	24.007	
10,100.0	9,734.0	9,247.8	8,814.0	34.4	33.1	-45.06	246.8	-881.6	1,306.6	1,251.7	54.84	23.827	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 301H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		
10,200.0	9,734.0	9,347.7	8,814.0	34.7	33.1	-45.03	346.8	-882.3	1,305.6	1,250.3	55.30	23.610	
10,200.0	9,734.0	9,347.7	8,814.0	34.7	33.1	-45.04	346.8	-882.3	1,305.8	1,250.5	55.30	23.611	
10,300.0	9,734.0	9,447.7	8,814.0	35.0	33.1	-45.04	446.8	-883.0	1,305.8	1,249.9	55.88	23.367	
10,400.0	9,734.0	9,547.7	8,814.0	35.3	33.2	-45.04	546.8	-883.7	1,305.8	1,249.3	56.55	23.090	
10,500.0	9,734.0	9,647.7	8,814.0	35.8	33.5	-45.04	646.8	-884.4	1,305.8	1,248.5	57.31	22.785	
10,600.0	9,734.0	9,747.7	8,814.0	36.2	33.9	-45.04	746.8	-885.1	1,305.8	1,247.7	58.15	22.457	
10,700.0	9,734.0	9,847.7	8,814.0	36.8	34.4	-45.04	846.8	-885.8	1,305.8	1,246.7	59.07	22.107	
10,800.0	9,734.0	9,947.7	8,814.0	37.3	35.0	-45.04	946.8	-886.4	1,305.8	1,245.8	60.06	21.741	
10,900.0	9,734.0	10,047.7	8,814.0	37.9	35.6	-45.04	1,046.8	-887.1	1,305.8	1,244.7	61.13	21.361	
11,000.0	9,734.0	10,147.7	8,814.0	38.6	36.2	-45.04	1,146.8	-887.8	1,305.8	1,243.6	62.27	20.971	
11,100.0	9,734.0	10,247.7	8,814.0	39.3	36.9	-45.04	1,246.8	-888.5	1,305.8	1,242.4	63.47	20.574	
11,200.0	9,734.0	10,347.7	8,814.0	40.1	37.7	-45.04	1,346.8	-889.2	1,305.8	1,241.1	64.73	20.173	
11,300.0	9,734.0	10,447.7	8,814.0	40.8	38.5	-45.04	1,446.8	-889.9	1,305.8	1,239.8	66.05	19.770	
11,400.0	9,734.0	10,547.7	8,814.0	41.7	39.3	-45.04	1,546.8	-890.6	1,305.8	1,238.4	67.43	19.366	
11,500.0	9,734.0	10,647.7	8,814.0	42.5	40.1	-45.04	1,646.8	-891.3	1,305.8	1,237.0	68.85	18.965	
11,600.0	9,734.0	10,747.7	8,814.0	43.4	41.0	-45.04	1,746.8	-892.0	1,305.8	1,235.5	70.33	18.567	
11,700.0	9,734.0	10,847.7	8,814.0	44.3	41.9	-45.04	1,846.8	-892.7	1,305.8	1,234.0	71.85	18.175	
11,800.0	9,734.0	10,947.7	8,814.0	45.3	42.8	-45.04	1,946.8	-893.4	1,305.8	1,232.4	73.41	17.788	
11,900.0	9,734.0	11,047.7	8,814.0	46.2	43.8	-45.04	2,046.8	-894.1	1,305.8	1,230.8	75.01	17.408	
12,000.0	9,734.0	11,147.7	8,814.0	47.2	44.8	-45.04	2,146.8	-894.8	1,305.8	1,229.2	76.65	17.036	
12,100.0	9,734.0	11,247.7	8,814.0	48.2	45.8	-45.04	2,246.8	-895.5	1,305.8	1,227.5	78.33	16.672	
12,200.0	9,734.0	11,347.7	8,814.0	49.3	46.9	-45.04	2,346.8	-896.2	1,305.8	1,225.8	80.03	16.316	
12,300.0	9,734.0	11,447.7	8,814.0	50.3	47.9	-45.04	2,446.8	-896.9	1,305.8	1,224.1	81.77	15.969	
12,400.0	9,734.0	11,547.7	8,814.0	51.4	49.0	-45.04	2,546.8	-897.6	1,305.8	1,222.3	83.54	15.632	
12,500.0	9,734.0	11,647.7	8,814.0	52.5	50.1	-45.04	2,646.8	-898.2	1,305.8	1,220.5	85.33	15.303	
12,600.0	9,734.0	11,747.7	8,814.0	53.6	51.2	-45.04	2,746.8	-898.9	1,305.8	1,218.7	87.15	14.984	
12,700.0	9,734.0	11,847.7	8,814.0	54.7	52.3	-45.04	2,846.8	-899.6	1,305.8	1,216.8	88.99	14.674	
12,800.0	9,734.0	11,947.7	8,814.0	55.9	53.5	-45.04	2,946.8	-900.3	1,305.8	1,215.0	90.85	14.373	
12,900.0	9,734.0	12,047.7	8,814.0	57.0	54.6	-45.04	3,046.8	-901.0	1,305.8	1,213.1	92.74	14.081	
13,000.0	9,734.0	12,147.7	8,814.0	58.2	55.8	-45.04	3,146.8	-901.7	1,305.8	1,211.2	94.65	13.797	
13,100.0	9,734.0	12,247.7	8,814.0	59.4	57.0	-45.04	3,246.8	-902.4	1,305.8	1,209.3	96.57	13.522	
13,200.0	9,734.0	12,347.7	8,814.0	60.6	58.2	-45.04	3,346.8	-903.1	1,305.8	1,207.3	98.51	13.256	
13,300.0	9,734.0	12,447.7	8,814.0	61.8	59.4	-45.04	3,446.8	-903.8	1,305.8	1,205.4	100.47	12.998	
13,400.0	9,734.0	12,547.7	8,814.0	63.0	60.6	-45.04	3,546.8	-904.5	1,305.8	1,203.4	102.44	12.747	
13,500.0	9,734.0	12,647.7	8,814.0	64.2	61.8	-45.04	3,646.8	-905.2	1,305.8	1,201.4	104.43	12.505	
13,600.0	9,734.0	12,747.7	8,814.0	65.4	63.1	-45.04	3,746.8	-905.9	1,305.8	1,199.4	106.43	12.269	
13,700.0	9,734.0	12,847.7	8,814.0	66.7	64.3	-45.04	3,846.7	-906.6	1,305.8	1,197.4	108.44	12.042	
13,800.0	9,734.0	12,947.7	8,814.0	67.9	65.6	-45.04	3,946.7	-907.3	1,305.8	1,195.4	110.47	11.821	
13,900.0	9,734.0	13,047.7	8,814.0	69.2	66.8	-45.04	4,046.7	-908.0	1,305.8	1,193.3	112.51	11.606	
14,000.0	9,734.0	13,147.7	8,814.0	70.4	68.1	-45.04	4,146.7	-908.7	1,305.8	1,191.3	114.56	11.399	
14,100.0	9,734.0	13,247.7	8,814.0	71.7	69.4	-45.04	4,246.7	-909.4	1,305.8	1,189.2	116.62	11.197	
14,200.0	9,734.0	13,347.7	8,814.0	73.0	70.7	-45.04	4,346.7	-910.0	1,305.8	1,187.2	118.69	11.002	
14,300.0	9,734.0	13,447.7	8,814.0	74.3	72.0	-45.04	4,446.7	-910.7	1,305.8	1,185.1	120.77	10.813	
14,400.0	9,734.0	13,547.7	8,814.0	75.6	73.2	-45.04	4,546.7	-911.4	1,305.8	1,183.0	122.86	10.629	
14,500.0	9,734.0	13,647.7	8,814.0	76.9	74.5	-45.04	4,646.7	-912.1	1,305.8	1,180.9	124.95	10.451	
14,600.0	9,734.0	13,747.7	8,814.0	78.2	75.9	-45.04	4,746.7	-912.8	1,305.8	1,178.8	127.06	10.278	
14,700.0	9,734.0	13,847.7	8,814.0	79.5	77.2	-45.04	4,846.7	-913.5	1,305.8	1,176.7	129.17	10.109	
14,800.0	9,734.0	13,947.7	8,814.0	80.8	78.5	-45.04	4,946.7	-914.2	1,305.8	1,174.6	131.29	9.946	
14,900.0	9,734.0	14,047.7	8,814.0	82.1	79.8	-45.04	5,046.7	-914.9	1,305.8	1,172.4	133.42	9.788	
15,000.0	9,734.0	14,147.7	8,814.0	83.4	81.1	-45.04	5,146.7	-915.6	1,305.8	1,170.3	135.55	9.634	
15,100.0	9,734.0	14,247.7	8,814.0	84.7	82.4	-45.04	5,246.7	-916.3	1,305.8	1,168.2	137.69	9.484	
15,200.0	9,734.0	14,347.7	8,814.0	86.1	83.8	-45.04	5,346.7	-917.0	1,305.9	1,166.0	139.84	9.338	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 301H - OH - Plan 0.1											Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM											Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
15,300.0	9,734.0	14,447.7	8,814.0	87.4	85.1	-45.04	5,446.7	-917.7	1,305.9	1,163.9	141.99	9.197
15,400.0	9,734.0	14,547.7	8,814.0	88.7	86.5	-45.04	5,546.7	-918.4	1,305.9	1,161.7	144.14	9.059
15,500.0	9,734.0	14,647.7	8,814.0	90.1	87.8	-45.04	5,646.7	-919.1	1,305.9	1,159.5	146.31	8.926
15,600.0	9,734.0	14,747.7	8,814.0	91.4	89.1	-45.04	5,746.7	-919.8	1,305.9	1,157.4	148.47	8.795
15,700.0	9,734.0	14,847.7	8,814.0	92.8	90.5	-45.04	5,846.7	-920.5	1,305.9	1,155.2	150.64	8.668
15,800.0	9,734.0	14,947.7	8,814.0	94.1	91.8	-45.04	5,946.7	-921.2	1,305.9	1,153.0	152.82	8.545
15,900.0	9,734.0	15,047.7	8,814.0	95.5	93.2	-45.04	6,046.7	-921.9	1,305.9	1,150.9	155.00	8.425
16,000.0	9,734.0	15,147.7	8,814.0	96.8	94.6	-45.04	6,146.7	-922.5	1,305.9	1,148.7	157.19	8.308
16,100.0	9,734.0	15,247.7	8,814.0	98.2	95.9	-45.04	6,246.7	-923.2	1,305.9	1,146.5	159.38	8.194
16,200.0	9,734.0	15,347.7	8,814.0	99.5	97.3	-45.04	6,346.7	-923.9	1,305.9	1,144.3	161.57	8.082
16,300.0	9,734.0	15,447.7	8,814.0	100.9	98.6	-45.04	6,446.7	-924.6	1,305.9	1,142.1	163.77	7.974
16,400.0	9,734.0	15,547.7	8,814.0	102.3	100.0	-45.04	6,546.7	-925.3	1,305.9	1,139.9	165.97	7.868
16,500.0	9,734.0	15,647.7	8,814.0	103.6	101.4	-45.04	6,646.7	-926.0	1,305.9	1,137.7	168.17	7.765
16,600.0	9,734.0	15,747.7	8,814.0	105.0	102.8	-45.04	6,746.7	-926.7	1,305.9	1,135.5	170.38	7.665
16,700.0	9,734.0	15,847.7	8,814.0	106.4	104.1	-45.04	6,846.7	-927.4	1,305.9	1,133.3	172.59	7.566
16,800.0	9,734.0	15,947.7	8,814.0	107.7	105.5	-45.04	6,946.7	-928.1	1,305.9	1,131.1	174.80	7.471
16,900.0	9,734.0	16,047.7	8,814.0	109.1	106.9	-45.04	7,046.7	-928.8	1,305.9	1,128.8	177.02	7.377
17,000.0	9,734.0	16,147.7	8,814.0	110.5	108.3	-45.04	7,146.7	-929.5	1,305.9	1,126.6	179.24	7.286
17,100.0	9,734.0	16,247.7	8,814.0	111.9	109.6	-45.04	7,246.7	-930.2	1,305.9	1,124.4	181.46	7.197
17,200.0	9,734.0	16,347.7	8,814.0	113.2	111.0	-45.04	7,346.7	-930.9	1,305.9	1,122.2	183.68	7.109
17,300.0	9,734.0	16,447.7	8,814.0	114.6	112.4	-45.04	7,446.7	-931.6	1,305.9	1,120.0	185.91	7.024
17,400.0	9,734.0	16,547.7	8,814.0	116.0	113.8	-45.04	7,546.7	-932.3	1,305.9	1,117.7	188.14	6.941
17,500.0	9,734.0	16,647.7	8,814.0	117.4	115.2	-45.04	7,646.7	-933.0	1,305.9	1,115.5	190.37	6.860
17,600.0	9,734.0	16,747.7	8,814.0	118.8	116.6	-45.04	7,746.7	-933.7	1,305.9	1,113.3	192.60	6.780
17,700.0	9,734.0	16,847.7	8,814.0	120.2	118.0	-45.04	7,846.7	-934.3	1,305.9	1,111.0	194.84	6.702
17,800.0	9,734.0	16,947.7	8,814.0	121.6	119.4	-45.04	7,946.6	-935.0	1,305.9	1,108.8	197.08	6.626
17,900.0	9,734.0	17,047.7	8,814.0	122.9	120.7	-45.04	8,046.6	-935.7	1,305.9	1,106.6	199.32	6.552
18,000.0	9,734.0	17,147.7	8,814.0	124.3	122.1	-45.04	8,146.6	-936.4	1,305.9	1,104.3	201.56	6.479
18,100.0	9,734.0	17,247.7	8,814.0	125.7	123.5	-45.04	8,246.6	-937.1	1,305.9	1,102.1	203.81	6.407
18,200.0	9,734.0	17,347.7	8,814.0	127.1	124.9	-45.04	8,346.6	-937.8	1,305.9	1,099.8	206.05	6.338
18,300.0	9,734.0	17,447.7	8,814.0	128.5	126.3	-45.04	8,446.6	-938.5	1,305.9	1,097.6	208.30	6.269
18,400.0	9,734.0	17,547.7	8,814.0	129.9	127.7	-45.04	8,546.6	-939.2	1,305.9	1,095.3	210.55	6.202
18,500.0	9,734.0	17,647.7	8,814.0	131.3	129.1	-45.04	8,646.6	-939.9	1,305.9	1,093.1	212.80	6.137
18,600.0	9,734.0	17,747.7	8,814.0	132.7	130.5	-45.04	8,746.6	-940.6	1,305.9	1,090.8	215.05	6.072
18,700.0	9,734.0	17,847.7	8,814.0	134.1	131.9	-45.04	8,846.6	-941.3	1,305.9	1,088.6	217.31	6.009
18,800.0	9,734.0	17,947.7	8,814.0	135.5	133.3	-45.04	8,946.6	-942.0	1,305.9	1,086.3	219.56	5.948
18,900.0	9,734.0	18,047.7	8,814.0	136.9	134.7	-45.04	9,046.6	-942.7	1,305.9	1,084.1	221.82	5.887
19,000.0	9,734.0	18,147.7	8,814.0	138.3	136.1	-45.04	9,146.6	-943.4	1,305.9	1,081.8	224.08	5.828
19,100.0	9,734.0	18,247.7	8,814.0	139.7	137.6	-45.04	9,246.6	-944.1	1,305.9	1,079.5	226.34	5.770
19,200.0	9,734.0	18,347.7	8,814.0	141.1	139.0	-45.04	9,346.6	-944.8	1,305.9	1,077.3	228.60	5.712
19,300.0	9,734.0	18,447.7	8,814.0	142.5	140.4	-45.04	9,446.6	-945.5	1,305.9	1,075.0	230.87	5.656
19,400.0	9,734.0	18,547.7	8,814.0	143.9	141.8	-45.04	9,546.6	-946.1	1,305.9	1,072.8	233.13	5.602
19,500.0	9,734.0	18,647.7	8,814.0	145.3	143.2	-45.04	9,646.6	-946.8	1,305.9	1,070.5	235.40	5.548
19,600.0	9,734.0	18,747.7	8,814.0	146.7	144.6	-45.04	9,746.6	-947.5	1,305.9	1,068.2	237.66	5.495
19,700.0	9,734.0	18,847.7	8,814.0	148.2	146.0	-45.04	9,846.6	-948.2	1,305.9	1,066.0	239.93	5.443
19,800.0	9,734.0	18,947.7	8,814.0	149.6	147.4	-45.04	9,946.6	-948.9	1,305.9	1,063.7	242.20	5.392
19,900.0	9,734.0	19,047.7	8,814.0	151.0	148.8	-45.04	10,046.6	-949.6	1,305.9	1,061.4	244.47	5.342
19,906.8	9,734.0	19,054.5	8,814.0	151.1	148.9	-45.04	10,053.4	-949.7	1,305.9	1,061.3	244.61	5.339
19,968.0	9,734.0	19,114.0	8,814.0	151.8	149.8	-45.04	10,112.8	-950.1	1,305.9	1,060.1	245.83	5.312 SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 302H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	2.6	2.6	0.0	0.0	3.14	160.1	8.8	160.3				
100.0	100.0	102.6	102.6	0.1	0.1	3.14	160.1	8.8	160.3	160.1	0.27	587.726	
200.0	200.0	202.6	202.6	0.5	0.5	3.14	160.1	8.8	160.3	159.3	0.99	161.992	
300.0	300.0	302.6	302.6	0.8	0.9	3.14	160.1	8.8	160.3	158.6	1.71	93.942	
400.0	400.0	402.6	402.6	1.2	1.2	3.14	160.1	8.8	160.3	157.9	2.42	66.153	
500.0	500.0	502.6	502.6	1.6	1.6	3.14	160.1	8.8	160.3	157.2	3.14	51.051	
600.0	600.0	602.6	602.6	1.9	1.9	3.14	160.1	8.8	160.3	156.5	3.86	41.563	
700.0	700.0	702.6	702.6	2.3	2.3	3.14	160.1	8.8	160.3	155.8	4.57	35.049	
800.0	800.0	802.6	802.6	2.6	2.7	3.14	160.1	8.8	160.3	155.0	5.29	30.300	
900.0	900.0	902.6	902.6	3.0	3.0	3.14	160.1	8.8	160.3	154.3	6.01	26.685	
1,000.0	1,000.0	1,002.6	1,002.6	3.4	3.4	3.14	160.1	8.8	160.3	153.6	6.73	23.840	
1,100.0	1,100.0	1,102.6	1,102.6	3.7	3.7	3.14	160.1	8.8	160.3	152.9	7.44	21.543	
1,200.0	1,200.0	1,202.6	1,202.6	4.1	4.1	3.14	160.1	8.8	160.3	152.2	8.16	19.650	
1,300.0	1,300.0	1,302.6	1,302.6	4.4	4.4	3.14	160.1	8.8	160.3	151.5	8.88	18.063	
1,400.0	1,400.0	1,402.6	1,402.6	4.8	4.8	3.14	160.1	8.8	160.3	150.7	9.59	16.713	
1,500.0	1,500.0	1,502.6	1,502.6	5.2	5.2	3.14	160.1	8.8	160.3	150.0	10.31	15.551	
1,600.0	1,600.0	1,602.6	1,602.6	5.5	5.5	3.14	160.1	8.8	160.3	149.3	11.03	14.540	
1,700.0	1,700.0	1,702.6	1,702.6	5.9	5.9	3.14	160.1	8.8	160.3	148.6	11.74	13.652	
1,800.0	1,800.0	1,802.6	1,802.6	6.2	6.2	3.14	160.1	8.8	160.3	147.9	12.46	12.867	
1,900.0	1,900.0	1,902.6	1,902.6	6.6	6.6	3.14	160.1	8.8	160.3	147.2	13.18	12.167	
2,000.0	2,000.0	2,002.6	2,002.6	6.9	7.0	3.14	160.1	8.8	160.3	146.4	13.89	11.539	
2,100.0	2,100.0	2,102.6	2,102.6	7.3	7.3	-162.77	160.1	8.8	162.0	147.4	14.59	11.100	
2,200.0	2,199.8	2,202.4	2,202.4	7.6	7.7	-163.27	160.1	8.8	167.0	151.7	15.28	10.931	
2,300.0	2,299.5	2,302.1	2,302.1	7.9	8.0	-164.05	160.1	8.8	175.4	159.4	15.96	10.986	
2,400.0	2,398.8	2,401.4	2,401.4	8.3	8.4	-164.99	160.1	8.8	186.3	169.7	16.65	11.190	
2,500.0	2,498.1	2,500.7	2,500.7	8.6	8.7	-165.85	160.1	8.8	197.4	180.1	17.34	11.388	
2,600.0	2,597.5	2,600.1	2,600.1	8.9	9.1	-166.62	160.1	8.8	208.6	190.6	18.03	11.572	
2,700.0	2,696.8	2,699.4	2,699.4	9.3	9.4	-167.32	160.1	8.8	219.8	201.1	18.72	11.743	
2,800.0	2,796.1	2,798.7	2,798.7	9.6	9.8	-167.94	160.1	8.8	231.1	211.7	19.41	11.902	
2,900.0	2,895.5	2,898.1	2,898.1	10.0	10.2	-168.51	160.1	8.8	242.3	222.2	20.11	12.050	
3,000.0	2,994.8	2,997.4	2,997.4	10.4	10.5	-169.03	160.1	8.8	253.6	232.8	20.81	12.188	
3,100.0	3,094.2	3,096.8	3,096.8	10.7	10.9	-169.50	160.1	8.8	264.9	243.4	21.51	12.317	
3,200.0	3,193.5	3,196.1	3,196.1	11.1	11.2	-169.94	160.1	8.8	276.3	254.0	22.21	12.438	
3,300.0	3,292.8	3,295.4	3,295.4	11.4	11.6	-170.34	160.1	8.8	287.6	264.7	22.91	12.552	
3,400.0	3,392.2	3,394.8	3,394.8	11.8	11.9	-170.71	160.1	8.8	298.9	275.3	23.62	12.658	
3,500.0	3,491.5	3,494.1	3,494.1	12.2	12.3	-171.05	160.1	8.8	310.3	286.0	24.32	12.759	
3,600.0	3,590.8	3,593.4	3,593.4	12.5	12.7	-171.37	160.1	8.8	321.7	296.7	25.03	12.853	
3,700.0	3,690.2	3,692.8	3,692.8	12.9	13.0	-171.67	160.1	8.8	333.1	307.3	25.73	12.943	
3,800.0	3,789.5	3,792.1	3,792.1	13.3	13.4	-171.94	160.1	8.8	344.4	318.0	26.44	13.027	
3,900.0	3,888.8	3,891.4	3,891.4	13.7	13.7	-172.20	160.1	8.8	355.8	328.7	27.15	13.107	
4,000.0	3,988.2	3,990.8	3,990.8	14.0	14.1	-172.45	160.1	8.8	367.2	339.4	27.86	13.183	
4,100.0	4,087.5	4,090.1	4,090.1	14.4	14.4	-172.68	160.1	8.8	378.7	350.1	28.57	13.255	
4,200.0	4,186.9	4,189.5	4,189.5	14.8	14.8	-172.89	160.1	8.8	390.1	360.8	29.28	13.323	
4,300.0	4,286.2	4,288.8	4,288.8	15.2	15.1	-173.09	160.1	8.8	401.5	371.5	29.99	13.388	
4,400.0	4,385.5	4,388.1	4,388.1	15.5	15.5	-173.29	160.1	8.8	412.9	382.2	30.70	13.450	
4,500.0	4,484.9	4,487.5	4,487.5	15.9	15.9	-173.47	160.1	8.8	424.3	392.9	31.41	13.509	
4,600.0	4,584.2	4,586.8	4,586.8	16.3	16.2	-173.64	160.1	8.8	435.8	403.7	32.12	13.566	
4,700.0	4,683.5	4,686.1	4,686.1	16.7	16.6	-173.81	160.1	8.8	447.2	414.3	32.84	13.619	
4,800.0	4,783.1	4,785.7	4,785.7	17.0	16.9	-173.95	160.1	8.8	458.6	422.9	33.55	13.606	
4,900.0	4,882.9	4,885.5	4,885.5	17.4	17.3	-174.04	160.1	8.8	462.2	428.0	34.26	13.493	
5,000.0	4,982.9	4,985.5	4,985.5	17.8	17.6	-174.07	160.1	8.8	464.6	429.6	34.97	13.286	
5,100.0	5,082.9	5,085.5	5,085.5	18.1	18.0	-8.34	160.1	8.8	464.6	428.9	35.67	13.026	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 302H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,182.9	5,185.5	5,185.5	18.4	18.4	-8.34	160.1	8.8	464.6	428.2	36.37	12.775	
5,300.0	5,282.9	5,285.5	5,285.5	18.8	18.7	-8.34	160.1	8.8	464.6	427.5	37.07	12.533	
5,400.0	5,382.9	5,402.0	5,401.9	19.1	19.1	-8.36	158.3	8.9	463.1	425.3	37.83	12.243	
5,500.0	5,482.9	5,520.9	5,520.7	19.4	19.5	-8.41	151.6	9.5	457.5	419.0	38.52	11.877	
5,600.0	5,582.9	5,639.0	5,638.2	19.8	19.9	-8.51	140.1	10.4	447.7	408.6	39.15	11.436	
5,700.0	5,682.9	5,756.0	5,754.1	20.1	20.3	-8.66	124.0	11.7	433.9	394.2	39.73	10.923	
5,800.0	5,782.9	5,867.9	5,864.2	20.5	20.6	-8.85	104.2	13.3	416.2	376.0	40.28	10.334	
5,900.0	5,882.9	5,966.1	5,960.6	20.8	20.9	-9.05	85.7	14.8	397.3	356.4	40.94	9.705	
6,000.0	5,982.9	6,064.3	6,057.0	21.1	21.3	-9.27	67.1	16.3	378.4	336.8	41.60	9.096	
6,100.0	6,082.9	6,162.5	6,153.4	21.5	21.6	-9.51	48.5	17.9	359.5	317.2	42.27	8.506	
6,200.0	6,182.9	6,260.7	6,249.8	21.8	21.9	-9.78	30.0	19.4	340.6	297.7	42.93	7.933	
6,300.0	6,282.9	6,358.9	6,346.3	22.2	22.3	-10.08	11.4	20.9	321.7	278.1	43.60	7.378	
6,400.0	6,382.9	6,457.0	6,442.7	22.5	22.6	-10.42	-7.1	22.4	302.8	258.5	44.27	6.840	
6,500.0	6,482.9	6,555.2	6,539.1	22.8	23.0	-10.81	-25.7	23.9	283.9	239.0	44.95	6.317	
6,600.0	6,582.9	6,653.4	6,635.5	23.2	23.3	-11.25	-44.3	25.4	265.1	219.5	45.62	5.811	
6,700.0	6,682.9	6,751.6	6,731.9	23.5	23.7	-11.75	-62.8	26.9	246.3	200.0	46.30	5.319	
6,800.0	6,782.9	6,849.8	6,828.3	23.9	24.0	-12.34	-81.4	28.4	227.4	180.5	46.98	4.841	
6,900.0	6,882.9	6,948.0	6,924.7	24.2	24.4	-13.04	-100.0	30.0	208.6	161.0	47.66	4.378	
7,000.0	6,982.9	7,046.2	7,021.1	24.6	24.7	-13.87	-118.5	31.5	189.9	141.5	48.35	3.928	
7,100.0	7,082.9	7,144.3	7,117.5	24.9	25.1	-14.89	-137.1	33.0	171.2	122.2	49.03	3.491	
7,200.0	7,182.9	7,242.5	7,213.9	25.3	25.5	-16.16	-155.6	34.5	152.5	102.8	49.72	3.068	
7,300.0	7,282.9	7,340.7	7,310.3	25.6	25.8	-17.77	-174.2	36.0	134.0	83.6	50.42	2.658	
7,400.0	7,382.9	7,438.9	7,406.7	25.9	26.2	-19.90	-192.8	37.5	115.6	64.5	51.12	2.261	
7,500.0	7,482.9	7,537.1	7,503.1	26.3	26.6	-22.83	-211.3	39.0	97.4	45.5	51.84	1.878	
7,600.0	7,582.9	7,635.3	7,599.5	26.6	26.9	-27.09	-229.9	40.5	79.5	27.0	52.58	1.513	
7,700.0	7,682.9	7,733.4	7,695.8	27.0	27.3	-33.72	-248.4	42.1	62.4	9.0	53.37	1.168 Level 2	
7,800.0	7,782.9	7,830.3	7,791.3	27.3	27.7	-43.51	-265.1	43.4	48.0	-6.4	54.35	0.883 Level 1	
7,900.0	7,882.9	7,928.3	7,888.4	27.7	28.1	-56.42	-278.6	44.5	38.1	-17.2	55.33	0.689 Level 1	
8,000.0	7,982.9	8,027.2	7,986.6	28.0	28.4	-70.75	-288.8	45.3	32.7	-23.6	56.26	0.581 Level 1	
8,100.0	8,082.9	8,126.6	8,085.8	28.4	28.8	-82.73	-295.7	45.9	30.5	-26.5	57.08	0.535 Level 1	
8,200.0	8,182.9	8,226.4	8,185.5	28.7	29.1	-89.27	-299.2	46.2	30.0	-27.8	57.81	0.519 Level 1	
8,262.4	8,245.3	8,288.7	8,247.9	28.9	29.3	-90.12	-299.7	46.2	30.0	-28.3	58.25	0.515 Level 1	
8,300.0	8,282.9	8,326.3	8,285.5	29.1	29.5	-90.12	-299.7	46.2	30.0	-28.5	58.51	0.512 Level 1	
8,305.0	8,287.9	8,331.3	8,290.5	29.1	29.5	-90.12	-299.7	46.2	30.0	-28.6	58.54	0.512 Level 1, CC	
8,400.0	8,382.9	8,426.1	8,385.2	29.4	29.8	-85.37	-297.2	46.2	30.1	-29.1	59.16	0.509 Level 1, ES, SF	
8,500.0	8,482.9	8,521.7	8,478.7	29.8	30.1	-54.37	-278.0	46.1	37.7	-20.8	58.48	0.644 Level 1	
8,600.0	8,582.9	8,606.8	8,557.2	30.1	30.3	-29.33	-245.6	45.9	68.1	13.1	55.03	1.237 Level 2	
8,700.0	8,682.9	8,678.6	8,618.2	30.5	30.5	-18.43	-207.7	45.6	117.9	66.5	51.38	2.295	
8,800.0	8,782.9	8,737.6	8,663.6	30.8	30.6	-13.41	-170.1	45.3	180.5	132.4	48.18	3.747	
8,900.0	8,882.9	8,785.5	8,696.7	31.2	30.6	-10.74	-135.6	45.1	252.0	206.5	45.50	5.538	
9,000.0	8,982.9	8,825.0	8,721.4	31.5	30.7	-9.13	-104.8	44.9	329.7	286.3	43.40	7.597	
9,100.0	9,082.9	8,856.3	8,739.1	31.9	30.8	-8.12	-78.9	44.7	411.9	370.3	41.65	9.891	
9,200.0	9,182.9	8,882.7	8,752.7	32.2	30.8	-7.41	-56.3	44.5	497.5	457.2	40.34	12.335	
9,300.0	9,282.9	8,900.0	8,760.9	32.6	30.8	-3.17	-41.1	44.4	585.4	546.3	39.07	14.981	
9,400.0	9,381.4	8,925.0	8,771.8	32.9	30.9	-2.02	-18.6	44.3	667.6	629.6	38.06	17.541	
9,500.0	9,474.5	8,950.0	8,781.4	33.2	30.9	-1.42	4.5	44.1	740.3	703.4	36.86	20.086	
9,600.0	9,558.1	8,987.0	8,793.5	33.4	30.9	-1.00	39.5	43.9	801.9	765.9	35.97	22.293	
9,700.0	9,628.4	9,025.0	8,803.1	33.7	31.0	-0.71	76.2	43.6	851.6	816.5	35.12	24.250	
9,800.0	9,682.6	9,050.0	8,807.7	33.9	31.0	-0.56	100.8	43.5	888.5	854.3	34.24	25.950	
9,900.0	9,718.1	9,085.1	8,812.1	34.0	31.1	-0.41	135.6	43.2	912.2	878.3	33.88	26.922	
10,000.0	9,733.4	9,127.4	8,814.0	34.2	31.1	-0.25	177.8	42.9	922.3	888.4	33.94	27.174	
10,100.0	9,734.0	9,202.8	8,814.0	34.4	31.3	-0.06	253.3	42.4	922.6	888.3	34.28	26.913	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 302H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,139.8	9,734.0	9,242.6	8,814.0	34.5	31.3	-0.01	293.0	42.1	922.6	888.1	34.44	26.788	
10,200.0	9,734.0	9,302.8	8,814.0	34.7	31.5	0.00	353.2	41.7	922.6	887.9	34.68	26.600	
10,300.0	9,734.0	9,402.8	8,814.0	35.0	31.8	0.00	453.2	41.0	922.6	887.4	35.15	26.246	
10,400.0	9,734.0	9,502.8	8,814.0	35.3	32.1	0.00	553.2	40.3	922.6	886.9	35.68	25.855	
10,500.0	9,734.0	9,602.8	8,814.0	35.8	32.5	0.00	653.2	39.6	922.6	886.3	36.27	25.434	
10,600.0	9,734.0	9,702.8	8,814.0	36.2	33.0	0.00	753.2	38.9	922.6	885.6	36.92	24.987	
10,700.0	9,734.0	9,802.8	8,814.0	36.8	33.5	0.00	853.2	38.2	922.6	884.9	37.63	24.520	
10,800.0	9,734.0	9,902.8	8,814.0	37.3	34.1	0.00	953.2	37.5	922.6	884.2	38.38	24.038	
10,900.0	9,734.0	10,002.8	8,814.0	37.9	34.7	0.00	1,053.2	36.8	922.6	883.4	39.18	23.545	
11,000.0	9,734.0	10,102.8	8,814.0	38.6	35.4	0.00	1,153.2	36.1	922.6	882.5	40.03	23.047	
11,100.0	9,734.0	10,202.8	8,814.0	39.3	36.1	0.00	1,253.2	35.4	922.6	881.6	40.92	22.545	
11,200.0	9,734.0	10,302.8	8,814.0	40.1	36.9	0.00	1,353.2	34.8	922.6	880.7	41.85	22.044	
11,300.0	9,734.0	10,402.8	8,814.0	40.8	37.7	0.00	1,453.2	34.1	922.6	879.7	42.82	21.546	
11,400.0	9,734.0	10,502.8	8,814.0	41.7	38.5	0.00	1,553.2	33.4	922.6	878.7	43.82	21.053	
11,500.0	9,734.0	10,602.8	8,814.0	42.5	39.4	0.00	1,653.2	32.7	922.6	877.7	44.86	20.567	
11,600.0	9,734.0	10,702.8	8,814.0	43.4	40.3	0.00	1,753.2	32.0	922.6	876.6	45.92	20.090	
11,700.0	9,734.0	10,802.8	8,814.0	44.3	41.2	0.00	1,853.2	31.3	922.6	875.6	47.01	19.623	
11,800.0	9,734.0	10,902.8	8,814.0	45.3	42.2	0.00	1,953.2	30.6	922.6	874.4	48.13	19.167	
11,900.0	9,734.0	11,002.8	8,814.0	46.2	43.2	0.00	2,053.2	29.9	922.6	873.3	49.28	18.722	
12,000.0	9,734.0	11,102.8	8,814.0	47.2	44.2	0.00	2,153.2	29.2	922.6	872.1	50.44	18.289	
12,100.0	9,734.0	11,202.8	8,814.0	48.2	45.2	0.00	2,253.2	28.5	922.6	870.9	51.63	17.868	
12,200.0	9,734.0	11,302.8	8,814.0	49.3	46.3	0.00	2,353.2	27.8	922.6	869.7	52.84	17.459	
12,300.0	9,734.0	11,402.8	8,814.0	50.3	47.4	0.00	2,453.2	27.1	922.6	868.5	54.07	17.063	
12,400.0	9,734.0	11,502.8	8,814.0	51.4	48.5	0.00	2,553.2	26.4	922.6	867.3	55.31	16.680	
12,500.0	9,734.0	11,602.8	8,814.0	52.5	49.6	0.00	2,653.2	25.7	922.6	866.0	56.57	16.308	
12,600.0	9,734.0	11,702.8	8,814.0	53.6	50.8	0.00	2,753.2	25.0	922.6	864.7	57.85	15.949	
12,700.0	9,734.0	11,802.8	8,814.0	54.7	51.9	0.00	2,853.2	24.3	922.6	863.4	59.13	15.601	
12,800.0	9,734.0	11,902.8	8,814.0	55.9	53.1	0.00	2,953.2	23.6	922.6	862.1	60.44	15.265	
12,900.0	9,734.0	12,002.8	8,814.0	57.0	54.3	0.00	3,053.2	23.0	922.6	860.8	61.75	14.940	
13,000.0	9,734.0	12,102.8	8,814.0	58.2	55.5	0.00	3,153.2	22.3	922.6	859.5	63.08	14.626	
13,100.0	9,734.0	12,202.8	8,814.0	59.4	56.7	0.00	3,253.2	21.6	922.6	858.2	64.41	14.322	
13,200.0	9,734.0	12,302.8	8,814.0	60.6	57.9	0.00	3,353.2	20.9	922.6	856.8	65.76	14.029	
13,300.0	9,734.0	12,402.8	8,814.0	61.8	59.1	0.00	3,453.2	20.2	922.6	855.5	67.12	13.745	
13,400.0	9,734.0	12,502.8	8,814.0	63.0	60.3	0.00	3,553.2	19.5	922.6	854.1	68.49	13.471	
13,500.0	9,734.0	12,602.8	8,814.0	64.2	61.6	0.00	3,653.2	18.8	922.6	852.7	69.86	13.206	
13,600.0	9,734.0	12,702.8	8,814.0	65.4	62.9	0.00	3,753.2	18.1	922.6	851.3	71.24	12.950	
13,700.0	9,734.0	12,802.8	8,814.0	66.7	64.1	0.00	3,853.2	17.4	922.6	849.9	72.63	12.702	
13,800.0	9,734.0	12,902.8	8,814.0	67.9	65.4	0.00	3,953.2	16.7	922.6	848.5	74.03	12.462	
13,900.0	9,734.0	13,002.8	8,814.0	69.2	66.7	0.00	4,053.2	16.0	922.6	847.1	75.43	12.230	
14,000.0	9,734.0	13,102.8	8,814.0	70.4	67.9	0.00	4,153.2	15.3	922.6	845.7	76.84	12.006	
14,100.0	9,734.0	13,202.8	8,814.0	71.7	69.2	0.00	4,253.2	14.6	922.6	844.3	78.26	11.788	
14,200.0	9,734.0	13,302.8	8,814.0	73.0	70.5	0.00	4,353.2	13.9	922.6	842.9	79.68	11.578	
14,300.0	9,734.0	13,402.8	8,814.0	74.3	71.8	0.00	4,453.1	13.2	922.6	841.5	81.11	11.374	
14,400.0	9,734.0	13,502.8	8,814.0	75.6	73.1	0.00	4,553.1	12.5	922.6	840.0	82.54	11.177	
14,500.0	9,734.0	13,602.8	8,814.0	76.9	74.5	0.00	4,653.1	11.8	922.6	838.6	83.98	10.985	
14,600.0	9,734.0	13,702.8	8,814.0	78.2	75.8	0.00	4,753.1	11.2	922.6	837.2	85.42	10.800	
14,700.0	9,734.0	13,802.8	8,814.0	79.5	77.1	0.00	4,853.1	10.5	922.6	835.7	86.87	10.620	
14,800.0	9,734.0	13,902.8	8,814.0	80.8	78.4	0.00	4,953.1	9.8	922.6	834.3	88.32	10.446	
14,900.0	9,734.0	14,002.8	8,814.0	82.1	79.8	0.00	5,053.1	9.1	922.6	832.8	89.78	10.276	
15,000.0	9,734.0	14,102.8	8,814.0	83.4	81.1	0.00	5,153.1	8.4	922.6	831.3	91.24	10.112	
15,100.0	9,734.0	14,202.8	8,814.0	84.7	82.4	0.00	5,253.1	7.7	922.6	829.9	92.70	9.953	
15,200.0	9,734.0	14,302.8	8,814.0	86.1	83.8	0.00	5,353.1	7.0	922.6	828.4	94.16	9.798	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 302H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,300.0	9,734.0	14,402.8	8,814.0	87.4	85.1	0.00	5,453.1	6.3	922.6	827.0	95.63	9.647	
15,400.0	9,734.0	14,502.8	8,814.0	88.7	86.5	0.00	5,553.1	5.6	922.6	825.5	97.11	9.501	
15,500.0	9,734.0	14,602.8	8,814.0	90.1	87.8	0.00	5,653.1	4.9	922.6	824.0	98.58	9.359	
15,600.0	9,734.0	14,702.8	8,814.0	91.4	89.2	0.00	5,753.1	4.2	922.6	822.5	100.06	9.220	
15,700.0	9,734.0	14,802.8	8,814.0	92.8	90.5	0.00	5,853.1	3.5	922.6	821.0	101.54	9.086	
15,800.0	9,734.0	14,902.8	8,814.0	94.1	91.9	0.00	5,953.1	2.8	922.6	819.6	103.02	8.955	
15,900.0	9,734.0	15,002.8	8,814.0	95.5	93.3	0.00	6,053.1	2.1	922.6	818.1	104.51	8.828	
16,000.0	9,734.0	15,102.8	8,814.0	96.8	94.6	0.00	6,153.1	1.4	922.6	816.6	106.00	8.704	
16,100.0	9,734.0	15,202.8	8,814.0	98.2	96.0	0.00	6,253.1	0.7	922.6	815.1	107.49	8.583	
16,200.0	9,734.0	15,302.8	8,814.0	99.5	97.4	0.00	6,353.1	0.0	922.6	813.6	108.98	8.466	
16,300.0	9,734.0	15,402.8	8,814.0	100.9	98.7	0.00	6,453.1	-0.6	922.6	812.1	110.48	8.351	
16,400.0	9,734.0	15,502.8	8,814.0	102.3	100.1	0.00	6,553.1	-1.3	922.6	810.6	111.97	8.239	
16,500.0	9,734.0	15,602.8	8,814.0	103.6	101.5	0.00	6,653.1	-2.0	922.6	809.1	113.47	8.131	
16,600.0	9,734.0	15,702.8	8,814.0	105.0	102.9	0.00	6,753.1	-2.7	922.6	807.6	114.97	8.024	
16,700.0	9,734.0	15,802.8	8,814.0	106.4	104.3	0.00	6,853.1	-3.4	922.6	806.1	116.48	7.921	
16,800.0	9,734.0	15,902.8	8,814.0	107.7	105.6	0.00	6,953.1	-4.1	922.6	804.6	117.98	7.820	
16,900.0	9,734.0	16,002.8	8,814.0	109.1	107.0	0.00	7,053.1	-4.8	922.6	803.1	119.49	7.721	
17,000.0	9,734.0	16,102.8	8,814.0	110.5	108.4	0.00	7,153.1	-5.5	922.6	801.6	120.99	7.625	
17,100.0	9,734.0	16,202.8	8,814.0	111.9	109.8	0.00	7,253.1	-6.2	922.6	800.1	122.50	7.531	
17,200.0	9,734.0	16,302.8	8,814.0	113.2	111.2	0.00	7,353.1	-6.9	922.6	798.6	124.01	7.439	
17,300.0	9,734.0	16,402.8	8,814.0	114.6	112.6	0.00	7,453.1	-7.6	922.6	797.1	125.53	7.350	
17,400.0	9,734.0	16,502.8	8,814.0	116.0	114.0	0.00	7,553.1	-8.3	922.6	795.6	127.04	7.262	
17,500.0	9,734.0	16,602.8	8,814.0	117.4	115.4	0.00	7,653.1	-9.0	922.6	794.0	128.55	7.177	
17,600.0	9,734.0	16,702.8	8,814.0	118.8	116.8	0.00	7,753.1	-9.7	922.6	792.5	130.07	7.093	
17,700.0	9,734.0	16,802.8	8,814.0	120.2	118.2	0.00	7,853.1	-10.4	922.6	791.0	131.59	7.011	
17,800.0	9,734.0	16,902.8	8,814.0	121.6	119.6	0.00	7,953.1	-11.1	922.6	789.5	133.11	6.931	
17,900.0	9,734.0	17,002.8	8,814.0	122.9	121.0	0.00	8,053.1	-11.8	922.6	788.0	134.63	6.853	
18,000.0	9,734.0	17,102.8	8,814.0	124.3	122.4	0.00	8,153.1	-12.4	922.6	786.4	136.15	6.776	
18,100.0	9,734.0	17,202.8	8,814.0	125.7	123.8	0.00	8,253.1	-13.1	922.6	784.9	137.67	6.702	
18,200.0	9,734.0	17,302.8	8,814.0	127.1	125.2	0.00	8,353.1	-13.8	922.6	783.4	139.19	6.628	
18,300.0	9,734.0	17,402.8	8,814.0	128.5	126.6	0.00	8,453.1	-14.5	922.6	781.9	140.72	6.556	
18,400.0	9,734.0	17,502.8	8,814.0	129.9	128.0	0.00	8,553.0	-15.2	922.6	780.4	142.24	6.486	
18,500.0	9,734.0	17,602.8	8,814.0	131.3	129.4	0.00	8,653.0	-15.9	922.6	778.8	143.77	6.417	
18,600.0	9,734.0	17,702.8	8,814.0	132.7	130.8	0.00	8,753.0	-16.6	922.6	777.3	145.30	6.350	
18,700.0	9,734.0	17,802.8	8,814.0	134.1	132.2	0.00	8,853.0	-17.3	922.6	775.8	146.82	6.284	
18,800.0	9,734.0	17,902.8	8,814.0	135.5	133.6	0.00	8,953.0	-18.0	922.6	774.2	148.35	6.219	
18,900.0	9,734.0	18,002.8	8,814.0	136.9	135.0	0.00	9,053.0	-18.7	922.6	772.7	149.88	6.156	
19,000.0	9,734.0	18,102.8	8,814.0	138.3	136.4	0.00	9,153.0	-19.4	922.6	771.2	151.41	6.093	
19,100.0	9,734.0	18,202.8	8,814.0	139.7	137.8	0.00	9,253.0	-20.1	922.6	769.7	152.94	6.032	
19,200.0	9,734.0	18,302.8	8,814.0	141.1	139.2	0.00	9,353.0	-20.8	922.6	768.1	154.48	5.972	
19,300.0	9,734.0	18,402.8	8,814.0	142.5	140.6	0.00	9,453.0	-21.5	922.6	766.6	156.01	5.914	
19,400.0	9,734.0	18,502.8	8,814.0	143.9	142.1	0.00	9,553.0	-22.2	922.6	765.1	157.54	5.856	
19,500.0	9,734.0	18,602.8	8,814.0	145.3	143.5	0.00	9,653.0	-22.9	922.6	763.5	159.08	5.800	
19,600.0	9,734.0	18,702.8	8,814.0	146.7	144.9	0.00	9,753.0	-23.6	922.6	762.0	160.61	5.744	
19,700.0	9,734.0	18,802.8	8,814.0	148.2	146.3	0.00	9,853.0	-24.2	922.6	760.5	162.15	5.690	
19,800.0	9,734.0	18,902.8	8,814.0	149.6	147.7	0.00	9,953.0	-24.9	922.6	758.9	163.68	5.637	
19,900.0	9,734.0	19,002.8	8,814.0	151.0	149.1	0.00	10,053.0	-25.6	922.6	757.4	165.22	5.584	
19,968.0	9,734.0	19,070.8	8,814.0	151.8	150.1	0.00	10,121.0	-26.1	922.6	756.6	166.00	5.558	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 303H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	2.5	2.5	0.0	0.0	10.18	160.2	28.8	162.7				
100.0	100.0	102.5	102.5	0.1	0.1	10.18	160.2	28.8	162.7	162.5	0.27	597.321	
200.0	200.0	202.5	202.5	0.5	0.5	10.18	160.2	28.8	162.7	161.7	0.99	164.480	
300.0	300.0	302.5	302.5	0.8	0.9	10.18	160.2	28.8	162.7	161.0	1.71	95.371	
400.0	400.0	402.5	402.5	1.2	1.2	10.18	160.2	28.8	162.7	160.3	2.42	67.155	
500.0	500.0	502.5	502.5	1.6	1.6	10.18	160.2	28.8	162.7	159.6	3.14	51.822	
600.0	600.0	602.5	602.5	1.9	1.9	10.18	160.2	28.8	162.7	158.9	3.86	42.190	
700.0	700.0	702.5	702.5	2.3	2.3	10.18	160.2	28.8	162.7	158.2	4.57	35.577	
800.0	800.0	802.5	802.5	2.6	2.7	10.18	160.2	28.8	162.7	157.4	5.29	30.756	
900.0	900.0	902.5	902.5	3.0	3.0	10.18	160.2	28.8	162.7	156.7	6.01	27.086	
1,000.0	1,000.0	1,002.5	1,002.5	3.4	3.4	10.18	160.2	28.8	162.7	156.0	6.72	24.199	
1,100.0	1,100.0	1,102.5	1,102.5	3.7	3.7	10.18	160.2	28.8	162.7	155.3	7.44	21.867	
1,200.0	1,200.0	1,202.5	1,202.5	4.1	4.1	10.18	160.2	28.8	162.7	154.6	8.16	19.946	
1,300.0	1,300.0	1,302.5	1,302.5	4.4	4.4	10.18	160.2	28.8	162.7	153.9	8.88	18.335	
1,400.0	1,400.0	1,402.5	1,402.5	4.8	4.8	10.18	160.2	28.8	162.7	153.1	9.59	16.964	
1,500.0	1,500.0	1,502.5	1,502.5	5.2	5.2	10.18	160.2	28.8	162.7	152.4	10.31	15.785	
1,600.0	1,600.0	1,602.5	1,602.5	5.5	5.5	10.18	160.2	28.8	162.7	151.7	11.03	14.758	
1,700.0	1,700.0	1,702.5	1,702.5	5.9	5.9	10.18	160.2	28.8	162.7	151.0	11.74	13.857	
1,800.0	1,800.0	1,802.5	1,802.5	6.2	6.2	10.18	160.2	28.8	162.7	150.3	12.46	13.060	
1,900.0	1,900.0	1,902.5	1,902.5	6.6	6.6	10.18	160.2	28.8	162.7	149.6	13.18	12.349	
2,000.0	2,000.0	2,002.5	2,002.5	6.9	7.0	10.18	160.2	28.8	162.7	148.8	13.89	11.712	
2,001.1	2,001.1	2,003.6	2,003.6	6.9	7.0	-155.55	160.2	28.8	162.7	148.8	13.90	11.706 CC, ES	
2,100.0	2,100.0	2,104.1	2,104.0	7.3	7.3	-155.16	159.4	30.5	163.8	149.2	14.59	11.233	
2,200.0	2,199.8	2,205.4	2,205.3	7.6	7.6	-154.08	157.0	35.4	167.2	151.9	15.25	10.964	
2,300.0	2,299.5	2,306.5	2,305.9	7.9	8.0	-152.40	153.1	43.5	172.9	157.0	15.92	10.863	
2,400.0	2,398.8	2,407.2	2,405.9	8.3	8.3	-150.17	147.6	54.8	180.5	163.9	16.60	10.872	
2,500.0	2,498.1	2,507.5	2,504.8	8.6	8.7	-147.11	140.7	69.2	187.9	170.6	17.29	10.868	
2,600.0	2,597.5	2,606.7	2,602.3	8.9	9.0	-143.53	132.8	85.8	195.6	177.6	17.99	10.875	
2,700.0	2,696.8	2,705.7	2,699.5	9.3	9.4	-140.18	124.7	102.6	204.0	185.3	18.69	10.914	
2,800.0	2,796.1	2,804.6	2,796.7	9.6	9.8	-137.10	116.6	119.3	213.1	193.7	19.41	10.979	
2,900.0	2,895.5	2,903.6	2,893.9	10.0	10.2	-134.28	108.6	136.1	222.7	202.6	20.13	11.065	
3,000.0	2,994.8	3,002.5	2,991.1	10.4	10.5	-131.69	100.5	152.9	232.8	212.0	20.86	11.164	
3,100.0	3,094.2	3,101.5	3,088.3	10.7	10.9	-129.32	92.4	169.6	243.4	221.8	21.59	11.274	
3,200.0	3,193.5	3,200.4	3,185.5	11.1	11.3	-127.15	84.4	186.4	254.4	232.0	22.33	11.392	
3,300.0	3,292.8	3,299.4	3,282.7	11.4	11.7	-125.16	76.3	203.2	265.6	242.6	23.07	11.514	
3,400.0	3,392.2	3,398.3	3,379.8	11.8	12.1	-123.34	68.3	220.0	277.2	253.4	23.82	11.639	
3,500.0	3,491.5	3,497.3	3,477.0	12.2	12.5	-121.66	60.2	236.7	289.0	264.5	24.57	11.765	
3,600.0	3,590.8	3,596.2	3,574.2	12.5	12.9	-120.11	52.1	253.5	301.1	275.8	25.32	11.891	
3,700.0	3,690.2	3,695.2	3,671.4	12.9	13.3	-118.68	44.1	270.3	313.3	287.3	26.08	12.016	
3,800.0	3,789.5	3,794.2	3,768.6	13.3	13.7	-117.36	36.0	287.0	325.8	298.9	26.84	12.139	
3,900.0	3,888.8	3,893.1	3,865.8	13.7	14.1	-116.14	28.0	303.8	338.4	310.8	27.60	12.261	
4,000.0	3,988.2	3,992.1	3,963.0	14.0	14.5	-115.00	19.9	320.6	351.1	322.7	28.36	12.380	
4,100.0	4,087.5	4,091.0	4,060.2	14.4	15.0	-113.95	11.8	337.3	364.0	334.8	29.13	12.496	
4,200.0	4,186.9	4,190.0	4,157.3	14.8	15.4	-112.97	3.8	354.1	376.9	347.0	29.89	12.609	
4,300.0	4,286.2	4,288.9	4,254.5	15.2	15.8	-112.05	-4.3	370.9	390.0	359.4	30.66	12.720	
4,400.0	4,385.5	4,387.9	4,351.7	15.5	16.2	-111.19	-12.3	387.6	403.2	371.8	31.43	12.827	
4,500.0	4,484.9	4,486.8	4,448.9	15.9	16.6	-110.38	-20.4	404.4	416.4	384.2	32.20	12.931	
4,600.0	4,584.2	4,585.8	4,546.1	16.3	17.0	-109.63	-28.5	421.2	429.8	396.8	32.98	13.032	
4,700.0	4,683.5	4,684.7	4,643.3	16.7	17.5	-108.95	-36.5	437.9	443.2	409.4	33.75	13.130	
4,800.0	4,783.1	4,783.6	4,740.4	17.0	17.9	-108.26	-44.6	454.7	455.9	421.4	34.52	13.209	
4,900.0	4,882.9	4,882.4	4,837.4	17.4	18.3	-107.21	-52.6	471.4	467.8	432.5	35.26	13.266	
5,000.0	4,982.9	4,980.9	4,934.1	17.8	18.7	-105.81	-60.7	488.1	478.9	443.0	35.99	13.308	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 303H - OH - Plan 0.1													Offset Site Error:	0.0 usft	
Survey Program:		0-B001Mb_MWD+HRGM			Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
5,100.0	5,082.9	5,079.1	5,030.6	18.1	19.2	61.68	-68.7	504.8	489.9	453.2	36.69	13.352			
5,200.0	5,182.9	5,177.3	5,127.1	18.4	19.6	63.40	-76.7	521.4	501.3	463.9	37.39	13.407			
5,300.0	5,282.9	5,275.5	5,223.5	18.8	20.0	65.04	-84.7	538.1	513.2	475.1	38.09	13.472			
5,400.0	5,382.9	5,373.7	5,320.0	19.1	20.4	66.61	-92.7	554.7	525.4	486.6	38.79	13.546			
5,500.0	5,482.9	5,471.9	5,416.5	19.4	20.8	68.11	-100.7	571.3	538.0	498.6	39.48	13.627			
5,600.0	5,582.9	5,570.2	5,512.9	19.8	21.3	69.54	-108.7	588.0	551.0	510.9	40.18	13.714			
5,700.0	5,682.9	5,668.4	5,609.4	20.1	21.7	70.90	-116.7	604.6	564.3	523.5	40.87	13.807			
5,800.0	5,782.9	5,766.6	5,705.9	20.5	22.1	72.21	-124.7	621.3	578.0	536.4	41.57	13.903			
5,900.0	5,882.9	5,864.8	5,802.3	20.8	22.5	73.45	-132.7	637.9	591.9	549.6	42.26	14.004			
6,000.0	5,982.9	5,963.0	5,898.8	21.1	23.0	74.63	-140.7	654.6	606.0	563.1	42.96	14.107			
6,100.0	6,082.9	6,061.2	5,995.3	21.5	23.4	75.76	-148.7	671.2	620.4	576.8	43.65	14.212			
6,200.0	6,182.9	6,159.5	6,091.7	21.8	23.8	76.85	-156.7	687.8	635.1	590.7	44.35	14.320			
6,300.0	6,282.9	6,257.7	6,188.2	22.2	24.3	77.88	-164.7	704.5	649.9	604.9	45.04	14.428			
6,400.0	6,382.9	6,355.9	6,284.6	22.5	24.7	78.86	-172.7	721.1	665.0	619.2	45.74	14.538			
6,500.0	6,482.9	6,454.1	6,381.1	22.8	25.1	79.81	-180.7	737.8	680.2	633.8	46.44	14.648			
6,600.0	6,582.9	6,552.3	6,477.6	23.2	25.5	80.71	-188.7	754.4	695.6	648.5	47.13	14.758			
6,700.0	6,682.9	6,650.5	6,574.0	23.5	26.0	81.57	-196.7	771.1	711.2	663.4	47.83	14.869			
6,800.0	6,782.9	6,748.8	6,670.5	23.9	26.4	82.40	-204.7	787.7	726.9	678.4	48.53	14.979			
6,900.0	6,882.9	6,847.0	6,767.0	24.2	26.8	83.19	-212.7	804.3	742.8	693.6	49.23	15.089			
7,000.0	6,982.9	6,945.2	6,863.4	24.6	27.3	83.95	-220.7	821.0	758.8	708.9	49.93	15.198			
7,100.0	7,082.9	7,043.4	6,959.9	24.9	27.7	84.68	-228.7	837.6	775.0	724.3	50.63	15.306			
7,200.0	7,182.9	7,141.6	7,056.4	25.3	28.1	85.38	-236.7	854.3	791.2	739.9	51.33	15.414			
7,300.0	7,282.9	7,239.8	7,152.8	25.6	28.6	86.05	-244.7	870.9	807.6	755.5	52.03	15.520			
7,400.0	7,382.9	7,338.1	7,249.3	25.9	29.0	86.69	-252.7	887.6	824.0	771.3	52.74	15.625			
7,500.0	7,482.9	7,436.3	7,345.8	26.3	29.4	87.31	-260.7	904.2	840.6	787.2	53.44	15.730			
7,600.0	7,582.9	7,534.5	7,442.2	26.6	29.8	87.90	-268.7	920.8	857.3	803.1	54.14	15.833			
7,700.0	7,682.9	7,662.1	7,567.9	27.0	30.4	88.58	-278.2	940.7	872.7	817.6	55.08	15.843			
7,800.0	7,782.9	7,798.8	7,703.5	27.3	30.9	89.10	-285.7	956.3	884.0	828.0	56.01	15.783			
7,900.0	7,882.9	7,936.8	7,841.0	27.7	31.4	89.41	-290.5	966.2	891.2	834.3	56.85	15.675			
8,000.0	7,982.9	8,075.5	7,979.7	28.0	31.9	89.54	-292.4	970.1	894.0	836.4	57.60	15.521			
8,100.0	8,082.9	8,181.2	8,085.4	28.4	32.2	89.54	-292.4	970.2	894.0	835.8	58.27	15.342			
8,200.0	8,182.9	8,281.2	8,185.4	28.7	32.5	89.54	-292.4	970.2	894.0	835.1	58.94	15.168			
8,300.0	8,282.9	8,381.2	8,285.4	29.1	32.8	89.54	-292.4	970.2	894.0	834.4	59.62	14.997			
8,301.3	8,284.2	8,382.6	8,286.7	29.1	32.8	89.54	-292.4	970.2	894.0	834.4	59.62	14.994			
8,400.0	8,382.9	8,481.0	8,385.0	29.4	33.1	89.38	-289.9	970.2	894.0	833.7	60.29	14.829			
8,500.0	8,482.9	8,576.4	8,478.4	29.8	33.4	88.16	-270.8	970.1	894.3	833.4	60.98	14.666			
8,600.0	8,582.9	8,661.4	8,556.9	30.1	33.6	86.09	-238.5	969.8	896.2	834.5	61.66	14.533			
8,700.0	8,682.9	8,733.2	8,617.8	30.5	33.7	83.68	-200.7	969.6	901.4	839.1	62.27	14.476			
8,800.0	8,782.9	8,792.1	8,663.2	30.8	33.8	81.31	-163.2	969.3	911.7	849.0	62.67	14.547			
8,900.0	8,882.9	8,840.0	8,696.4	31.2	33.8	79.16	-128.7	969.1	928.5	865.7	62.79	14.788			
9,000.0	8,982.9	8,875.0	8,718.4	31.5	33.8	77.49	-101.5	968.9	952.6	890.0	62.52	15.236			
9,100.0	9,082.9	8,910.9	8,738.9	31.9	33.8	75.69	-72.0	968.7	984.1	922.1	62.00	15.872			
9,200.0	9,182.9	8,937.3	8,752.5	32.2	33.8	74.34	-49.4	968.5	1,022.9	961.7	61.16	16.725			
9,300.0	9,282.9	8,959.7	8,763.0	32.6	33.8	75.01	-29.7	968.4	1,068.4	1,008.3	60.11	17.774			
9,400.0	9,381.4	8,984.1	8,773.4	32.9	33.8	67.70	-7.6	968.2	1,116.3	1,057.3	58.95	18.937			
9,500.0	9,474.5	9,011.7	8,783.8	33.2	33.8	61.04	18.0	968.0	1,162.7	1,104.9	57.79	20.121			
9,600.0	9,558.1	9,041.7	8,793.4	33.4	33.8	55.47	46.4	967.8	1,205.1	1,148.4	56.72	21.247			
9,700.0	9,628.4	9,075.0	8,802.0	33.7	33.7	51.10	78.6	967.6	1,241.6	1,185.7	55.85	22.231			
9,800.0	9,682.6	9,100.0	8,806.9	33.9	33.7	48.03	103.1	967.5	1,270.5	1,215.3	55.17	23.028			
9,900.0	9,718.1	9,139.8	8,812.1	34.0	33.7	45.95	142.5	967.2	1,290.7	1,235.8	54.92	23.503			
10,000.0	9,733.4	9,175.0	8,813.9	34.2	33.7	44.97	177.7	966.9	1,301.6	1,246.6	54.98	23.672			
10,100.0	9,734.0	9,257.0	8,814.0	34.4	33.6	45.01	259.7	966.4	1,304.9	1,249.5	55.43	23.541			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 303H - OH - Plan 0.1													Offset Site Error: 0.0 usft	
Survey Program: Reference		0-B001Mb_MWD+HRGM Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,200.0	9,734.0	9,357.0	8,814.0	34.7	33.5	45.05	359.7	965.7	1,305.7	1,249.7	55.96	23.333		
10,300.0	9,734.0	9,457.0	8,814.0	35.0	33.5	45.05	459.7	965.0	1,305.7	1,249.1	56.56	23.085		
10,400.0	9,734.0	9,557.0	8,814.0	35.3	33.5	45.05	559.7	964.3	1,305.7	1,248.4	57.25	22.807		
10,500.0	9,734.0	9,657.0	8,814.0	35.8	33.8	45.05	659.7	963.6	1,305.7	1,247.7	58.02	22.503		
10,600.0	9,734.0	9,757.0	8,814.0	36.2	34.2	45.05	759.7	962.9	1,305.7	1,246.8	58.88	22.175		
10,700.0	9,734.0	9,857.0	8,814.0	36.8	34.7	45.05	859.7	962.2	1,305.7	1,245.9	59.82	21.828		
10,800.0	9,734.0	9,957.0	8,814.0	37.3	35.2	45.05	959.6	961.5	1,305.7	1,244.9	60.83	21.466		
10,900.0	9,734.0	10,057.0	8,814.0	37.9	35.8	45.05	1,059.6	960.8	1,305.7	1,243.8	61.91	21.091		
11,000.0	9,734.0	10,157.0	8,814.0	38.6	36.5	45.05	1,159.6	960.1	1,305.7	1,242.6	63.06	20.706		
11,100.0	9,734.0	10,257.0	8,814.0	39.3	37.2	45.05	1,259.6	959.4	1,305.7	1,241.4	64.27	20.315		
11,200.0	9,734.0	10,357.0	8,814.0	40.1	37.9	45.05	1,359.6	958.7	1,305.7	1,240.1	65.54	19.921		
11,300.0	9,734.0	10,457.0	8,814.0	40.8	38.7	45.05	1,459.6	958.0	1,305.7	1,238.8	66.88	19.524		
11,400.0	9,734.0	10,557.0	8,814.0	41.7	39.5	45.05	1,559.6	957.3	1,305.7	1,237.4	68.26	19.128		
11,500.0	9,734.0	10,657.0	8,814.0	42.5	40.4	45.05	1,659.6	956.6	1,305.7	1,236.0	69.69	18.734		
11,600.0	9,734.0	10,757.0	8,814.0	43.4	41.2	45.05	1,759.6	956.0	1,305.7	1,234.5	71.18	18.344		
11,700.0	9,734.0	10,857.0	8,814.0	44.3	42.1	45.05	1,859.6	955.3	1,305.7	1,233.0	72.70	17.959		
11,800.0	9,734.0	10,957.0	8,814.0	45.3	43.1	45.05	1,959.6	954.6	1,305.7	1,231.4	74.27	17.580		
11,900.0	9,734.0	11,057.0	8,814.0	46.2	44.1	45.05	2,059.6	953.9	1,305.7	1,229.8	75.88	17.207		
12,000.0	9,734.0	11,157.0	8,814.0	47.2	45.0	45.05	2,159.6	953.2	1,305.7	1,228.2	77.53	16.842		
12,100.0	9,734.0	11,257.0	8,814.0	48.2	46.1	45.05	2,259.6	952.5	1,305.7	1,226.5	79.20	16.485		
12,200.0	9,734.0	11,357.0	8,814.0	49.3	47.1	45.05	2,359.6	951.8	1,305.7	1,224.8	80.92	16.136		
12,300.0	9,734.0	11,457.0	8,814.0	50.3	48.2	45.05	2,459.6	951.1	1,305.7	1,223.0	82.66	15.796		
12,400.0	9,734.0	11,557.0	8,814.0	51.4	49.2	45.05	2,559.6	950.4	1,305.7	1,221.3	84.43	15.465		
12,500.0	9,734.0	11,657.0	8,814.0	52.5	50.3	45.05	2,659.6	949.7	1,305.7	1,219.5	86.23	15.143		
12,600.0	9,734.0	11,757.0	8,814.0	53.6	51.4	45.05	2,759.6	949.0	1,305.7	1,217.6	88.05	14.829		
12,700.0	9,734.0	11,857.0	8,814.0	54.7	52.6	45.05	2,859.6	948.3	1,305.7	1,215.8	89.89	14.525		
12,800.0	9,734.0	11,957.0	8,814.0	55.9	53.7	45.05	2,959.6	947.6	1,305.7	1,213.9	91.76	14.229		
12,900.0	9,734.0	12,057.0	8,814.0	57.0	54.9	45.05	3,059.6	946.9	1,305.7	1,212.0	93.65	13.942		
13,000.0	9,734.0	12,157.0	8,814.0	58.2	56.1	45.05	3,159.6	946.2	1,305.7	1,210.1	95.56	13.664		
13,100.0	9,734.0	12,257.0	8,814.0	59.4	57.2	45.05	3,259.6	945.5	1,305.7	1,208.2	97.48	13.394		
13,200.0	9,734.0	12,357.0	8,814.0	60.6	58.4	45.05	3,359.6	944.8	1,305.7	1,206.3	99.43	13.132		
13,300.0	9,734.0	12,457.0	8,814.0	61.8	59.6	45.05	3,459.6	944.2	1,305.7	1,204.3	101.39	12.878		
13,400.0	9,734.0	12,557.0	8,814.0	63.0	60.9	45.05	3,559.6	943.5	1,305.7	1,202.3	103.36	12.632		
13,500.0	9,734.0	12,657.0	8,814.0	64.2	62.1	45.05	3,659.6	942.8	1,305.7	1,200.3	105.35	12.393		
13,600.0	9,734.0	12,757.0	8,814.0	65.4	63.3	45.05	3,759.6	942.1	1,305.7	1,198.3	107.36	12.162		
13,700.0	9,734.0	12,857.0	8,814.0	66.7	64.6	45.05	3,859.6	941.4	1,305.7	1,196.3	109.37	11.938		
13,800.0	9,734.0	12,957.0	8,814.0	67.9	65.8	45.05	3,959.6	940.7	1,305.7	1,194.3	111.40	11.720		
13,900.0	9,734.0	13,057.0	8,814.0	69.2	67.1	45.05	4,059.6	940.0	1,305.7	1,192.2	113.44	11.510		
14,000.0	9,734.0	13,157.0	8,814.0	70.4	68.3	45.05	4,159.6	939.3	1,305.7	1,190.2	115.50	11.305		
14,100.0	9,734.0	13,257.0	8,814.0	71.7	69.6	45.05	4,259.6	938.6	1,305.7	1,188.1	117.56	11.107		
14,200.0	9,734.0	13,357.0	8,814.0	73.0	70.9	45.05	4,359.6	937.9	1,305.7	1,186.1	119.63	10.914		
14,300.0	9,734.0	13,457.0	8,814.0	74.3	72.2	45.05	4,459.6	937.2	1,305.7	1,184.0	121.71	10.728		
14,400.0	9,734.0	13,557.0	8,814.0	75.6	73.5	45.05	4,559.6	936.5	1,305.7	1,181.9	123.80	10.547		
14,500.0	9,734.0	13,657.0	8,814.0	76.9	74.8	45.05	4,659.6	935.8	1,305.7	1,179.8	125.90	10.371		
14,600.0	9,734.0	13,757.0	8,814.0	78.2	76.1	45.05	4,759.6	935.1	1,305.7	1,177.7	128.01	10.200		
14,700.0	9,734.0	13,857.0	8,814.0	79.5	77.4	45.05	4,859.6	934.4	1,305.7	1,175.6	130.12	10.034		
14,800.0	9,734.0	13,957.0	8,814.0	80.8	78.7	45.05	4,959.6	933.7	1,305.7	1,173.4	132.24	9.873		
14,900.0	9,734.0	14,057.0	8,814.0	82.1	80.0	45.05	5,059.5	933.0	1,305.7	1,171.3	134.37	9.717		
15,000.0	9,734.0	14,157.0	8,814.0	83.4	81.3	45.05	5,159.5	932.4	1,305.7	1,169.2	136.51	9.565		
15,100.0	9,734.0	14,257.0	8,814.0	84.7	82.7	45.05	5,259.5	931.7	1,305.7	1,167.0	138.65	9.417		
15,200.0	9,734.0	14,357.0	8,814.0	86.1	84.0	45.05	5,359.5	931.0	1,305.7	1,164.9	140.80	9.274		
15,300.0	9,734.0	14,457.0	8,814.0	87.4	85.3	45.05	5,459.5	930.3	1,305.7	1,162.7	142.95	9.134		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 303H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.0	9,734.0	14,557.0	8,814.0	88.7	86.7	45.05	5,559.5	929.6	1,305.7	1,160.6	145.11	8.998	
15,500.0	9,734.0	14,657.0	8,814.0	90.1	88.0	45.05	5,659.5	928.9	1,305.7	1,158.4	147.27	8.866	
15,600.0	9,734.0	14,757.0	8,814.0	91.4	89.4	45.05	5,759.5	928.2	1,305.7	1,156.2	149.44	8.737	
15,700.0	9,734.0	14,857.0	8,814.0	92.8	90.7	45.05	5,859.5	927.5	1,305.7	1,154.1	151.62	8.612	
15,800.0	9,734.0	14,957.0	8,814.0	94.1	92.1	45.05	5,959.5	926.8	1,305.7	1,151.9	153.79	8.490	
15,900.0	9,734.0	15,057.0	8,814.0	95.5	93.4	45.05	6,059.5	926.1	1,305.7	1,149.7	155.98	8.371	
16,000.0	9,734.0	15,157.0	8,814.0	96.8	94.8	45.05	6,159.5	925.4	1,305.7	1,147.5	158.16	8.255	
16,100.0	9,734.0	15,257.0	8,814.0	98.2	96.1	45.05	6,259.5	924.7	1,305.7	1,145.3	160.36	8.142	
16,200.0	9,734.0	15,357.0	8,814.0	99.5	97.5	45.05	6,359.5	924.0	1,305.7	1,143.1	162.55	8.032	
16,300.0	9,734.0	15,457.0	8,814.0	100.9	98.9	45.05	6,459.5	923.3	1,305.7	1,140.9	164.75	7.925	
16,400.0	9,734.0	15,557.0	8,814.0	102.3	100.2	45.05	6,559.5	922.6	1,305.7	1,138.7	166.95	7.821	
16,500.0	9,734.0	15,657.0	8,814.0	103.6	101.6	45.05	6,659.5	921.9	1,305.7	1,136.5	169.16	7.719	
16,600.0	9,734.0	15,757.0	8,814.0	105.0	103.0	45.05	6,759.5	921.2	1,305.7	1,134.3	171.37	7.619	
16,700.0	9,734.0	15,857.0	8,814.0	106.4	104.3	45.05	6,859.5	920.5	1,305.7	1,132.1	173.58	7.522	
16,800.0	9,734.0	15,957.0	8,814.0	107.7	105.7	45.05	6,959.5	919.9	1,305.7	1,129.9	175.79	7.427	
16,900.0	9,734.0	16,057.0	8,814.0	109.1	107.1	45.05	7,059.5	919.2	1,305.7	1,127.7	178.01	7.335	
17,000.0	9,734.0	16,157.0	8,814.0	110.5	108.5	45.05	7,159.5	918.5	1,305.7	1,125.4	180.23	7.244	
17,100.0	9,734.0	16,257.0	8,814.0	111.9	109.9	45.05	7,259.5	917.8	1,305.7	1,123.2	182.46	7.156	
17,200.0	9,734.0	16,357.0	8,814.0	113.2	111.2	45.05	7,359.5	917.1	1,305.7	1,121.0	184.69	7.070	
17,300.0	9,734.0	16,457.0	8,814.0	114.6	112.6	45.05	7,459.5	916.4	1,305.7	1,118.8	186.91	6.985	
17,400.0	9,734.0	16,557.0	8,814.0	116.0	114.0	45.05	7,559.5	915.7	1,305.7	1,116.5	189.15	6.903	
17,500.0	9,734.0	16,657.0	8,814.0	117.4	115.4	45.05	7,659.5	915.0	1,305.7	1,114.3	191.38	6.822	
17,600.0	9,734.0	16,757.0	8,814.0	118.8	116.8	45.05	7,759.5	914.3	1,305.7	1,112.1	193.62	6.744	
17,700.0	9,734.0	16,857.0	8,814.0	120.2	118.2	45.05	7,859.5	913.6	1,305.7	1,109.8	195.86	6.667	
17,800.0	9,734.0	16,957.0	8,814.0	121.6	119.6	45.05	7,959.5	912.9	1,305.7	1,107.6	198.10	6.591	
17,900.0	9,734.0	17,057.0	8,814.0	122.9	120.9	45.05	8,059.5	912.2	1,305.7	1,105.3	200.34	6.517	
18,000.0	9,734.0	17,157.0	8,814.0	124.3	122.3	45.05	8,159.5	911.5	1,305.7	1,103.1	202.58	6.445	
18,100.0	9,734.0	17,257.0	8,814.0	125.7	123.7	45.05	8,259.5	910.8	1,305.7	1,100.8	204.83	6.374	
18,200.0	9,734.0	17,357.0	8,814.0	127.1	125.1	45.05	8,359.5	910.1	1,305.7	1,098.6	207.08	6.305	
18,300.0	9,734.0	17,457.0	8,814.0	128.5	126.5	45.05	8,459.5	909.4	1,305.7	1,096.3	209.33	6.237	
18,400.0	9,734.0	17,557.0	8,814.0	129.9	127.9	45.05	8,559.5	908.7	1,305.7	1,094.1	211.58	6.171	
18,500.0	9,734.0	17,657.0	8,814.0	131.3	129.3	45.05	8,659.5	908.1	1,305.7	1,091.8	213.83	6.106	
18,600.0	9,734.0	17,757.0	8,814.0	132.7	130.7	45.05	8,759.5	907.4	1,305.7	1,089.6	216.09	6.042	
18,700.0	9,734.0	17,857.0	8,814.0	134.1	132.1	45.05	8,859.5	906.7	1,305.7	1,087.3	218.35	5.980	
18,800.0	9,734.0	17,957.0	8,814.0	135.5	133.5	45.05	8,959.5	906.0	1,305.7	1,085.1	220.61	5.919	
18,900.0	9,734.0	18,057.0	8,814.0	136.9	134.9	45.05	9,059.5	905.3	1,305.7	1,082.8	222.87	5.859	
19,000.0	9,734.0	18,157.0	8,814.0	138.3	136.3	45.05	9,159.4	904.6	1,305.7	1,080.5	225.13	5.800	
19,100.0	9,734.0	18,257.0	8,814.0	139.7	137.7	45.05	9,259.4	903.9	1,305.7	1,078.3	227.39	5.742	
19,200.0	9,734.0	18,357.0	8,814.0	141.1	139.2	45.05	9,359.4	903.2	1,305.7	1,076.0	229.65	5.685	
19,300.0	9,734.0	18,457.0	8,814.0	142.5	140.6	45.05	9,459.4	902.5	1,305.7	1,073.8	231.92	5.630	
19,400.0	9,734.0	18,557.0	8,814.0	143.9	142.0	45.05	9,559.4	901.8	1,305.7	1,071.5	234.19	5.575	
19,500.0	9,734.0	18,657.0	8,814.0	145.3	143.4	45.05	9,659.4	901.1	1,305.7	1,069.2	236.45	5.522	
19,600.0	9,734.0	18,757.0	8,814.0	146.7	144.8	45.05	9,759.4	900.4	1,305.7	1,066.9	238.72	5.469	
19,700.0	9,734.0	18,857.0	8,814.0	148.2	146.2	45.05	9,859.4	899.7	1,305.7	1,064.7	240.99	5.418	
19,800.0	9,734.0	18,957.0	8,814.0	149.6	147.6	45.05	9,959.4	899.0	1,305.7	1,062.4	243.27	5.367	
19,900.0	9,734.0	19,057.0	8,814.0	151.0	149.0	45.05	10,059.4	898.3	1,305.7	1,060.1	245.54	5.318	
19,968.0	9,734.0	19,124.9	8,814.0	151.8	150.0	45.05	10,127.4	897.9	1,305.7	1,058.8	246.90	5.288 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 501H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	0.0	0.0	-90.60	-0.2	-20.0	20.0				
100.0	100.0	100.0	100.0	0.1	0.1	-90.60	-0.2	-20.0	20.0	19.7	0.26	75.874	
200.0	200.0	200.0	200.0	0.5	0.5	-90.60	-0.2	-20.0	20.0	19.0	0.98	20.390	
300.0	300.0	300.0	300.0	0.8	0.8	-90.60	-0.2	-20.0	20.0	18.3	1.70	11.778	
400.0	400.0	400.0	400.0	1.2	1.2	-90.60	-0.2	-20.0	20.0	17.6	2.41	8.280	
500.0	500.0	500.0	500.0	1.6	1.6	-90.60	-0.2	-20.0	20.0	16.9	3.13	6.384	
600.0	600.0	600.0	600.0	1.9	1.9	-90.60	-0.2	-20.0	20.0	16.1	3.85	5.195	
700.0	700.0	700.0	700.0	2.3	2.3	-90.60	-0.2	-20.0	20.0	15.4	4.57	4.379	
800.0	800.0	800.0	800.0	2.6	2.6	-90.60	-0.2	-20.0	20.0	14.7	5.28	3.785	
900.0	900.0	900.0	900.0	3.0	3.0	-90.60	-0.2	-20.0	20.0	14.0	6.00	3.332	
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	-90.60	-0.2	-20.0	20.0	13.3	6.72	2.977	
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	-90.60	-0.2	-20.0	20.0	12.6	7.43	2.690	
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	-90.60	-0.2	-20.0	20.0	11.8	8.15	2.453	
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	-90.60	-0.2	-20.0	20.0	11.1	8.87	2.255	
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	-90.60	-0.2	-20.0	20.0	10.4	9.58	2.086	
1,500.0	1,500.0	1,500.0	1,500.0	5.2	5.2	-90.60	-0.2	-20.0	20.0	9.7	10.30	1.941	
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	-90.60	-0.2	-20.0	20.0	9.0	11.02	1.814	
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	-90.60	-0.2	-20.0	20.0	8.3	11.73	1.704	
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	-90.60	-0.2	-20.0	20.0	7.5	12.45	1.606	
1,900.0	1,900.0	1,900.0	1,900.0	6.6	6.6	-90.60	-0.2	-20.0	20.0	6.8	13.17	1.518	
2,000.0	2,000.0	2,000.0	2,000.0	6.9	6.9	-90.60	-0.2	-20.0	20.0	6.1	13.89	1.440 Level 3, CC, ES, SF	
2,100.0	2,100.0	2,099.3	2,099.3	7.3	7.3	106.54	-0.8	-21.6	22.1	7.5	14.56	1.515	
2,200.0	2,199.8	2,198.3	2,198.1	7.6	7.6	112.56	-2.5	-26.4	28.5	13.3	15.20	1.877	
2,300.0	2,299.5	2,296.6	2,296.0	7.9	8.0	118.08	-5.4	-34.4	39.7	23.9	15.84	2.506	
2,400.0	2,398.8	2,394.1	2,392.8	8.3	8.3	121.43	-9.3	-45.5	55.1	38.7	16.47	3.347	
2,500.0	2,498.1	2,492.6	2,490.5	8.6	8.6	122.65	-13.9	-58.1	72.0	54.9	17.14	4.201	
2,600.0	2,597.5	2,591.2	2,588.1	8.9	9.0	123.42	-18.4	-70.8	88.9	71.1	17.82	4.990	
2,700.0	2,696.8	2,689.7	2,685.7	9.3	9.3	123.93	-22.9	-83.5	105.9	87.4	18.51	5.720	
2,800.0	2,796.1	2,788.3	2,783.3	9.6	9.7	124.31	-27.5	-96.2	122.8	103.6	19.20	6.395	
2,900.0	2,895.5	2,886.8	2,881.0	10.0	10.1	124.59	-32.0	-108.8	139.7	119.8	19.90	7.023	
3,000.0	2,994.8	2,985.4	2,978.6	10.4	10.4	124.82	-36.5	-121.5	156.7	136.1	20.60	7.606	
3,100.0	3,094.2	3,083.9	3,076.2	10.7	10.8	125.00	-41.1	-134.2	173.6	152.3	21.31	8.149	
3,200.0	3,193.5	3,182.5	3,173.9	11.1	11.2	125.14	-45.6	-146.9	190.6	168.5	22.02	8.656	
3,300.0	3,292.8	3,281.0	3,271.5	11.4	11.5	125.27	-50.1	-159.5	207.5	184.8	22.73	9.129	
3,400.0	3,392.2	3,379.6	3,369.1	11.8	11.9	125.37	-54.6	-172.2	224.4	201.0	23.45	9.573	
3,500.0	3,491.5	3,478.1	3,466.7	12.2	12.3	125.46	-59.2	-184.9	241.4	217.2	24.17	9.989	
3,600.0	3,590.8	3,576.7	3,564.4	12.5	12.7	125.54	-63.7	-197.6	258.3	233.5	24.89	10.380	
3,700.0	3,690.2	3,675.3	3,662.0	12.9	13.0	125.61	-68.2	-210.2	275.3	249.7	25.61	10.748	
3,800.0	3,789.5	3,773.8	3,759.6	13.3	13.4	125.67	-72.8	-222.9	292.2	265.9	26.34	11.095	
3,900.0	3,888.8	3,872.4	3,857.3	13.7	13.8	125.72	-77.3	-235.6	309.2	282.1	27.07	11.422	
4,000.0	3,988.2	3,970.9	3,954.9	14.0	14.2	125.77	-81.8	-248.3	326.1	298.3	27.80	11.731	
4,100.0	4,087.5	4,069.5	4,052.5	14.4	14.6	125.81	-86.4	-260.9	343.1	314.5	28.53	12.024	
4,200.0	4,186.9	4,168.0	4,150.2	14.8	14.9	125.85	-90.9	-273.6	360.0	330.8	29.27	12.301	
4,300.0	4,286.2	4,266.6	4,247.8	15.2	15.3	125.89	-95.4	-286.3	377.0	347.0	30.00	12.564	
4,400.0	4,385.5	4,365.1	4,345.4	15.5	15.7	125.92	-100.0	-299.0	393.9	363.2	30.74	12.814	
4,500.0	4,484.9	4,463.7	4,443.0	15.9	16.1	125.95	-104.5	-311.6	410.9	379.4	31.48	13.051	
4,600.0	4,584.2	4,562.2	4,540.7	16.3	16.5	125.98	-109.0	-324.3	427.8	395.6	32.22	13.277	
4,700.0	4,683.5	4,660.8	4,638.3	16.7	16.9	126.04	-113.6	-337.0	444.7	411.8	32.96	13.492	
4,800.0	4,783.1	4,759.5	4,736.1	17.0	17.3	126.09	-118.1	-349.7	460.4	426.7	33.70	13.662	
4,900.0	4,882.9	4,858.5	4,834.2	17.4	17.7	126.14	-122.7	-362.4	474.1	439.6	34.43	13.770	
5,000.0	4,982.9	4,957.6	4,932.3	17.8	18.0	126.14	-127.2	-375.2	485.8	450.6	35.15	13.821	
5,100.0	5,082.9	5,056.6	5,030.4	18.1	18.4	-70.12	-131.8	-387.9	496.3	460.4	35.85	13.844	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 501H - OH - Plan 0.1											Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
5,200.0	5,182.9	5,155.7	5,128.6	18.4	18.8	-71.10	-136.3	-400.6	506.9	470.4	36.55	13.869
5,300.0	5,282.9	5,254.7	5,226.7	18.8	19.2	-72.04	-140.9	-413.4	517.7	480.5	37.25	13.897
5,400.0	5,382.9	5,353.8	5,324.8	19.1	19.6	-72.94	-145.4	-426.1	528.6	490.7	37.96	13.927
5,500.0	5,482.9	5,452.9	5,423.0	19.4	20.0	-73.80	-150.0	-438.9	539.7	501.0	38.66	13.960
5,600.0	5,582.9	5,551.9	5,521.1	19.8	20.4	-74.63	-154.6	-451.6	550.8	511.5	39.36	13.994
5,700.0	5,682.9	5,651.0	5,619.2	20.1	20.8	-75.43	-159.1	-464.3	562.1	522.1	40.07	14.029
5,800.0	5,782.9	5,750.1	5,717.4	20.5	21.2	-76.20	-163.7	-477.1	573.5	532.7	40.77	14.066
5,900.0	5,882.9	5,849.1	5,815.5	20.8	21.6	-76.93	-168.2	-489.8	585.0	543.5	41.48	14.104
6,000.0	5,982.9	5,948.2	5,913.6	21.1	22.0	-77.64	-172.8	-502.6	596.5	554.4	42.18	14.142
6,100.0	6,082.9	6,047.3	6,011.8	21.5	22.4	-78.32	-177.3	-515.3	608.2	565.3	42.89	14.181
6,200.0	6,182.9	6,146.3	6,109.9	21.8	22.8	-78.98	-181.9	-528.0	619.9	576.3	43.59	14.221
6,300.0	6,282.9	6,245.4	6,208.0	22.2	23.2	-79.61	-186.5	-540.8	631.7	587.4	44.30	14.261
6,400.0	6,382.9	6,344.4	6,306.2	22.5	23.6	-80.22	-191.0	-553.5	643.6	598.6	45.00	14.301
6,500.0	6,482.9	6,443.5	6,404.3	22.8	24.0	-80.80	-195.6	-566.3	655.6	609.9	45.71	14.342
6,600.0	6,582.9	6,542.6	6,502.4	23.2	24.4	-81.37	-200.1	-579.0	667.6	621.2	46.42	14.383
6,700.0	6,682.9	6,641.6	6,600.6	23.5	24.8	-81.91	-204.7	-591.8	679.7	632.5	47.12	14.423
6,800.0	6,782.9	6,740.7	6,698.7	23.9	25.2	-82.44	-209.2	-604.5	691.8	644.0	47.83	14.464
6,900.0	6,882.9	6,839.8	6,796.8	24.2	25.5	-82.94	-213.8	-617.2	704.0	655.5	48.54	14.504
7,000.0	6,982.9	6,938.8	6,895.0	24.6	25.9	-83.44	-218.3	-630.0	716.2	667.0	49.25	14.544
7,100.0	7,082.9	7,037.9	6,993.1	24.9	26.3	-83.91	-222.9	-642.7	728.5	678.6	49.96	14.584
7,200.0	7,182.9	7,136.9	7,091.3	25.3	26.7	-84.37	-227.5	-655.5	740.9	690.2	50.66	14.624
7,300.0	7,282.9	7,236.0	7,189.4	25.6	27.1	-84.81	-232.0	-668.2	753.3	701.9	51.37	14.663
7,400.0	7,382.9	7,335.1	7,287.5	25.9	27.5	-85.24	-236.6	-680.9	765.7	713.6	52.08	14.702
7,500.0	7,482.9	7,434.1	7,385.7	26.3	27.9	-85.66	-241.1	-693.7	778.2	725.4	52.79	14.741
7,600.0	7,582.9	7,533.2	7,483.8	26.6	28.3	-86.06	-245.7	-706.4	790.7	737.2	53.50	14.779
7,700.0	7,682.9	7,632.3	7,581.9	27.0	28.7	-86.45	-250.2	-719.2	803.3	749.0	54.21	14.817
7,800.0	7,782.9	7,731.3	7,680.1	27.3	29.1	-86.83	-254.8	-731.9	815.8	760.9	54.92	14.854
7,900.0	7,882.9	7,830.4	7,778.2	27.7	29.5	-87.19	-259.4	-744.6	828.5	772.8	55.63	14.891
8,000.0	7,982.9	7,929.4	7,876.3	28.0	29.9	-87.55	-263.9	-757.4	841.1	784.8	56.35	14.928
8,100.0	8,082.9	8,028.5	7,974.5	28.4	30.3	-87.89	-268.5	-770.1	853.8	796.7	57.06	14.964
8,200.0	8,182.9	8,127.6	8,072.6	28.7	30.7	-88.23	-273.0	-782.9	866.5	808.7	57.77	15.000
8,300.0	8,282.9	8,226.6	8,170.7	29.1	31.1	-88.55	-277.6	-795.6	879.3	820.8	58.48	15.035
8,400.0	8,382.9	8,325.7	8,268.9	29.4	31.5	-88.87	-282.1	-808.3	892.0	832.8	59.19	15.070
8,500.0	8,482.9	8,424.8	8,367.0	29.8	31.9	-89.17	-286.7	-821.1	904.8	844.9	59.91	15.104
8,600.0	8,582.9	8,523.8	8,465.1	30.1	32.3	-89.47	-291.2	-833.8	917.6	857.0	60.62	15.138
8,700.0	8,682.9	8,622.9	8,563.3	30.5	32.7	-89.76	-295.8	-846.6	930.5	869.2	61.33	15.171
8,800.0	8,782.9	8,745.9	8,685.2	30.8	33.2	-90.09	-301.1	-861.4	942.7	880.5	62.22	15.151
8,900.0	8,882.9	8,890.7	8,829.5	31.2	33.8	-90.34	-305.2	-873.0	950.7	887.5	63.17	15.049
9,000.0	8,982.9	9,036.3	8,975.0	31.5	34.3	-90.44	-306.9	-877.6	953.9	889.9	64.00	14.904
9,100.0	9,082.9	9,144.2	9,082.9	31.9	34.6	-90.44	-306.9	-877.7	954.0	889.3	64.70	14.745
9,200.0	9,182.9	9,244.2	9,182.9	32.2	34.9	-90.44	-306.9	-877.7	954.0	888.6	65.38	14.591
9,300.0	9,282.9	9,344.2	9,282.9	32.6	35.2	-86.95	-306.2	-877.7	953.9	887.9	66.06	14.440
9,400.0	9,381.4	9,444.3	9,381.6	32.9	35.5	-87.05	-290.3	-877.9	953.1	886.4	66.70	14.290
9,500.0	9,474.5	9,544.5	9,474.8	33.2	35.8	-87.27	-254.2	-878.1	951.1	883.9	67.26	14.142
9,600.0	9,558.1	9,644.5	9,558.3	33.4	36.0	-87.62	-199.5	-878.5	948.2	880.4	67.74	13.997
9,700.0	9,628.4	9,744.5	9,628.7	33.7	36.1	-88.07	-128.6	-879.0	944.3	876.2	68.16	13.854
9,800.0	9,682.6	9,844.5	9,682.7	33.9	36.1	-88.61	-44.8	-879.6	939.8	871.3	68.54	13.712
9,900.0	9,718.1	9,944.4	9,718.1	34.0	36.1	-89.21	48.4	-880.2	934.7	865.9	68.89	13.569
10,000.0	9,733.4	10,044.3	9,733.4	34.2	36.1	-89.85	147.0	-880.9	929.4	860.2	69.23	13.426
10,100.0	9,734.0	10,144.2	9,734.0	34.4	36.1	-90.00	246.8	-881.6	925.0	855.4	69.59	13.292
10,199.9	9,734.0	10,244.1	9,734.0	34.7	36.2	-90.00	346.8	-882.3	923.6	853.6	70.07	13.182
10,200.0	9,734.0	10,244.1	9,734.0	34.7	36.2	-90.00	346.8	-882.3	923.9	853.9	70.07	13.186

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 501H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	9,734.0	10,344.1	9,734.0	35.0	36.4	-90.00	446.8	-883.0	923.9	853.3	70.66	13.076	
10,400.0	9,734.0	10,444.1	9,734.0	35.3	36.6	-90.00	546.8	-883.7	923.9	852.6	71.36	12.947	
10,500.0	9,734.0	10,544.1	9,734.0	35.8	37.0	-90.00	646.8	-884.4	923.9	851.8	72.18	12.801	
10,600.0	9,734.0	10,644.1	9,734.0	36.2	37.4	-90.00	746.8	-885.1	923.9	850.8	73.10	12.640	
10,700.0	9,734.0	10,744.1	9,734.0	36.8	37.9	-90.00	846.8	-885.8	923.9	849.8	74.12	12.466	
10,800.0	9,734.0	10,844.1	9,734.0	37.3	38.5	-90.00	946.8	-886.4	923.9	848.7	75.24	12.281	
10,900.0	9,734.0	10,944.1	9,734.0	37.9	39.1	-90.00	1,046.8	-887.1	923.9	847.5	76.45	12.086	
11,000.0	9,734.0	11,044.1	9,734.0	38.6	39.7	-90.00	1,146.8	-887.8	923.9	846.2	77.75	11.884	
11,100.0	9,734.0	11,144.1	9,734.0	39.3	40.4	-90.00	1,246.8	-888.5	923.9	844.8	79.13	11.676	
11,200.0	9,734.0	11,244.1	9,734.0	40.1	41.1	-90.00	1,346.8	-889.2	923.9	843.3	80.60	11.464	
11,300.0	9,734.0	11,344.1	9,734.0	40.8	41.9	-90.00	1,446.8	-889.9	923.9	841.8	82.14	11.249	
11,400.0	9,734.0	11,444.1	9,734.0	41.7	42.7	-90.00	1,546.8	-890.6	923.9	840.2	83.75	11.032	
11,500.0	9,734.0	11,544.1	9,734.0	42.5	43.5	-90.00	1,646.8	-891.3	923.9	838.5	85.43	10.815	
11,600.0	9,734.0	11,644.1	9,734.0	43.4	44.3	-90.00	1,746.8	-892.0	923.9	836.8	87.18	10.599	
11,700.0	9,734.0	11,744.1	9,734.0	44.3	45.2	-90.00	1,846.8	-892.7	923.9	835.0	88.98	10.384	
11,800.0	9,734.0	11,844.1	9,734.0	45.3	46.2	-90.00	1,946.8	-893.4	923.9	833.1	90.84	10.171	
11,900.0	9,734.0	11,944.1	9,734.0	46.2	47.1	-90.00	2,046.8	-894.1	923.9	831.2	92.75	9.961	
12,000.0	9,734.0	12,044.1	9,734.0	47.2	48.1	-90.00	2,146.8	-894.8	923.9	829.2	94.72	9.755	
12,100.0	9,734.0	12,144.1	9,734.0	48.2	49.0	-90.00	2,246.8	-895.5	923.9	827.2	96.73	9.552	
12,200.0	9,734.0	12,244.1	9,734.0	49.3	50.1	-90.00	2,346.8	-896.2	923.9	825.2	98.78	9.353	
12,300.0	9,734.0	12,344.1	9,734.0	50.3	51.1	-90.00	2,446.8	-896.9	923.9	823.1	100.88	9.159	
12,400.0	9,734.0	12,444.1	9,734.0	51.4	52.1	-90.00	2,546.8	-897.6	923.9	820.9	103.01	8.969	
12,500.0	9,734.0	12,544.1	9,734.0	52.5	53.2	-90.00	2,646.8	-898.2	923.9	818.8	105.18	8.784	
12,600.0	9,734.0	12,644.1	9,734.0	53.6	54.3	-90.00	2,746.8	-898.9	923.9	816.6	107.39	8.604	
12,700.0	9,734.0	12,744.1	9,734.0	54.7	55.4	-90.00	2,846.8	-899.6	923.9	814.3	109.62	8.428	
12,800.0	9,734.0	12,844.1	9,734.0	55.9	56.5	-90.00	2,946.8	-900.3	924.0	812.1	111.89	8.258	
12,900.0	9,734.0	12,944.1	9,734.0	57.0	57.7	-90.00	3,046.8	-901.0	924.0	809.8	114.19	8.092	
13,000.0	9,734.0	13,044.1	9,734.0	58.2	58.8	-90.00	3,146.8	-901.7	924.0	807.4	116.51	7.930	
13,100.0	9,734.0	13,144.1	9,734.0	59.4	60.0	-90.00	3,246.8	-902.4	924.0	805.1	118.86	7.774	
13,200.0	9,734.0	13,244.1	9,734.0	60.6	61.1	-90.00	3,346.8	-903.1	924.0	802.7	121.23	7.622	
13,300.0	9,734.0	13,344.1	9,734.0	61.8	62.3	-90.00	3,446.8	-903.8	924.0	800.3	123.62	7.474	
13,400.0	9,734.0	13,444.1	9,734.0	63.0	63.5	-90.00	3,546.8	-904.5	924.0	797.9	126.04	7.331	
13,500.0	9,734.0	13,544.1	9,734.0	64.2	64.7	-90.00	3,646.8	-905.2	924.0	795.5	128.47	7.192	
13,600.0	9,734.0	13,644.1	9,734.0	65.4	65.9	-90.00	3,746.8	-905.9	924.0	793.0	130.92	7.057	
13,700.0	9,734.0	13,744.1	9,734.0	66.7	67.1	-90.00	3,846.7	-906.6	924.0	790.6	133.39	6.927	
13,800.0	9,734.0	13,844.1	9,734.0	67.9	68.4	-90.00	3,946.7	-907.3	924.0	788.1	135.88	6.800	
13,900.0	9,734.0	13,944.1	9,734.0	69.2	69.6	-90.00	4,046.7	-908.0	924.0	785.6	138.38	6.677	
14,000.0	9,734.0	14,044.1	9,734.0	70.4	70.9	-90.00	4,146.7	-908.7	924.0	783.1	140.90	6.557	
14,100.0	9,734.0	14,144.1	9,734.0	71.7	72.1	-90.00	4,246.7	-909.4	924.0	780.5	143.44	6.442	
14,200.0	9,734.0	14,244.1	9,734.0	73.0	73.4	-90.00	4,346.7	-910.0	924.0	778.0	145.98	6.329	
14,300.0	9,734.0	14,344.1	9,734.0	74.3	74.7	-90.00	4,446.7	-910.7	924.0	775.4	148.54	6.220	
14,400.0	9,734.0	14,444.1	9,734.0	75.6	75.9	-90.00	4,546.7	-911.4	924.0	772.9	151.11	6.114	
14,500.0	9,734.0	14,544.1	9,734.0	76.9	77.2	-90.00	4,646.7	-912.1	924.0	770.3	153.69	6.012	
14,600.0	9,734.0	14,644.1	9,734.0	78.2	78.5	-90.00	4,746.7	-912.8	924.0	767.7	156.29	5.912	
14,700.0	9,734.0	14,744.1	9,734.0	79.5	79.8	-90.00	4,846.7	-913.5	924.0	765.1	158.89	5.815	
14,800.0	9,734.0	14,844.1	9,734.0	80.8	81.1	-90.00	4,946.7	-914.2	924.0	762.5	161.50	5.721	
14,900.0	9,734.0	14,944.1	9,734.0	82.1	82.4	-90.00	5,046.7	-914.9	924.0	759.8	164.13	5.630	
15,000.0	9,734.0	15,044.1	9,734.0	83.4	83.7	-90.00	5,146.7	-915.6	924.0	757.2	166.76	5.541	
15,100.0	9,734.0	15,144.1	9,734.0	84.7	85.0	-90.00	5,246.7	-916.3	924.0	754.6	169.40	5.454	
15,200.0	9,734.0	15,244.1	9,734.0	86.1	86.3	-90.00	5,346.7	-917.0	924.0	751.9	172.05	5.370	
15,300.0	9,734.0	15,344.1	9,734.0	87.4	87.7	-90.00	5,446.7	-917.7	924.0	749.3	174.71	5.289	
15,400.0	9,734.0	15,444.1	9,734.0	88.7	89.0	-90.00	5,546.7	-918.4	924.0	746.6	177.37	5.209	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 501H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.0	9,734.0	15,544.1	9,734.0	90.1	90.3	-90.00	5,646.7	-919.1	924.0	743.9	180.04	5.132	
15,600.0	9,734.0	15,644.1	9,734.0	91.4	91.6	-90.00	5,746.7	-919.8	924.0	741.3	182.72	5.057	
15,700.0	9,734.0	15,744.1	9,734.0	92.8	93.0	-90.00	5,846.7	-920.5	924.0	738.6	185.40	4.984	
15,800.0	9,734.0	15,844.1	9,734.0	94.1	94.3	-90.00	5,946.7	-921.2	924.0	735.9	188.10	4.912	
15,900.0	9,734.0	15,944.1	9,734.0	95.5	95.7	-90.00	6,046.7	-921.9	924.0	733.2	190.79	4.843	
16,000.0	9,734.0	16,044.1	9,734.0	96.8	97.0	-90.00	6,146.7	-922.5	924.0	730.5	193.49	4.775	
16,100.0	9,734.0	16,144.1	9,734.0	98.2	98.3	-90.00	6,246.7	-923.2	924.0	727.8	196.20	4.709	
16,200.0	9,734.0	16,244.1	9,734.0	99.5	99.7	-90.00	6,346.7	-923.9	924.0	725.1	198.92	4.645	
16,300.0	9,734.0	16,344.1	9,734.0	100.9	101.0	-90.00	6,446.7	-924.6	924.0	722.3	201.63	4.582	
16,400.0	9,734.0	16,444.1	9,734.0	102.3	102.4	-90.00	6,546.7	-925.3	924.0	719.6	204.36	4.521	
16,500.0	9,734.0	16,544.1	9,734.0	103.6	103.8	-90.00	6,646.7	-926.0	924.0	716.9	207.09	4.462	
16,600.0	9,734.0	16,644.1	9,734.0	105.0	105.1	-90.00	6,746.7	-926.7	924.0	714.2	209.82	4.404	
16,700.0	9,734.0	16,744.1	9,734.0	106.4	106.5	-90.00	6,846.7	-927.4	924.0	711.4	212.55	4.347	
16,800.0	9,734.0	16,844.1	9,734.0	107.7	107.9	-90.00	6,946.7	-928.1	924.0	708.7	215.30	4.292	
16,900.0	9,734.0	16,944.1	9,734.0	109.1	109.2	-90.00	7,046.7	-928.8	924.0	705.9	218.04	4.238	
17,000.0	9,734.0	17,044.1	9,734.0	110.5	110.6	-90.00	7,146.7	-929.5	924.0	703.2	220.79	4.185	
17,100.0	9,734.0	17,144.1	9,734.0	111.9	112.0	-90.00	7,246.7	-930.2	924.0	700.4	223.54	4.133	
17,200.0	9,734.0	17,244.1	9,734.0	113.2	113.3	-90.00	7,346.7	-930.9	924.0	697.7	226.30	4.083	
17,300.0	9,734.0	17,344.1	9,734.0	114.6	114.7	-90.00	7,446.7	-931.6	924.0	694.9	229.06	4.034	
17,400.0	9,734.0	17,444.1	9,734.0	116.0	116.1	-90.00	7,546.7	-932.3	924.0	692.2	231.82	3.986	
17,500.0	9,734.0	17,544.1	9,734.0	117.4	117.5	-90.00	7,646.7	-933.0	924.0	689.4	234.59	3.939	
17,600.0	9,734.0	17,644.1	9,734.0	118.8	118.8	-90.00	7,746.7	-933.7	924.0	686.6	237.35	3.893	
17,700.0	9,734.0	17,744.1	9,734.0	120.2	120.2	-90.00	7,846.7	-934.3	924.0	683.9	240.13	3.848	
17,800.0	9,734.0	17,844.1	9,734.0	121.6	121.6	-90.00	7,946.6	-935.0	924.0	681.1	242.90	3.804	
17,900.0	9,734.0	17,944.1	9,734.0	122.9	123.0	-90.00	8,046.6	-935.7	924.0	678.3	245.68	3.761	
18,000.0	9,734.0	18,044.1	9,734.0	124.3	124.4	-90.00	8,146.6	-936.4	924.0	675.5	248.46	3.719	
18,100.0	9,734.0	18,144.1	9,734.0	125.7	125.8	-90.00	8,246.6	-937.1	924.0	672.7	251.24	3.678	
18,200.0	9,734.0	18,244.1	9,734.0	127.1	127.2	-90.00	8,346.6	-937.8	924.0	670.0	254.03	3.637	
18,300.0	9,734.0	18,344.1	9,734.0	128.5	128.5	-90.00	8,446.6	-938.5	924.0	667.2	256.81	3.598	
18,400.0	9,734.0	18,444.1	9,734.0	129.9	129.9	-90.00	8,546.6	-939.2	924.0	664.4	259.60	3.559	
18,500.0	9,734.0	18,544.1	9,734.0	131.3	131.3	-90.00	8,646.6	-939.9	924.0	661.6	262.40	3.521	
18,600.0	9,734.0	18,644.1	9,734.0	132.7	132.7	-90.00	8,746.6	-940.6	924.0	658.8	265.19	3.484	
18,700.0	9,734.0	18,744.1	9,734.0	134.1	134.1	-90.00	8,846.6	-941.3	924.0	656.0	267.99	3.448	
18,800.0	9,734.0	18,844.1	9,734.0	135.5	135.5	-90.00	8,946.6	-942.0	924.0	653.2	270.79	3.412	
18,900.0	9,734.0	18,944.1	9,734.0	136.9	136.9	-90.00	9,046.6	-942.7	924.0	650.4	273.59	3.377	
19,000.0	9,734.0	19,044.1	9,734.0	138.3	138.3	-90.00	9,146.6	-943.4	924.0	647.6	276.39	3.343	
19,100.0	9,734.0	19,144.1	9,734.0	139.7	139.7	-90.00	9,246.6	-944.1	924.0	644.8	279.19	3.310	
19,200.0	9,734.0	19,244.1	9,734.0	141.1	141.1	-90.00	9,346.6	-944.8	924.0	642.0	282.00	3.277	
19,300.0	9,734.0	19,344.1	9,734.0	142.5	142.5	-90.00	9,446.6	-945.5	924.0	639.2	284.81	3.244	
19,400.0	9,734.0	19,444.1	9,734.0	143.9	143.9	-90.00	9,546.6	-946.1	924.0	636.4	287.62	3.213	
19,500.0	9,734.0	19,544.1	9,734.0	145.3	145.3	-90.00	9,646.6	-946.8	924.0	633.6	290.43	3.181	
19,600.0	9,734.0	19,644.1	9,734.0	146.7	146.7	-90.00	9,746.6	-947.5	924.0	630.8	293.24	3.151	
19,700.0	9,734.0	19,744.1	9,734.0	148.2	148.1	-90.00	9,846.6	-948.2	924.0	627.9	296.06	3.121	
19,800.0	9,734.0	19,844.1	9,734.0	149.6	149.5	-90.00	9,946.6	-948.9	924.0	625.1	298.87	3.092	
19,900.0	9,734.0	19,944.1	9,734.0	151.0	150.9	-90.00	10,046.6	-949.6	924.0	622.3	301.69	3.063	
19,907.0	9,734.0	19,951.2	9,734.0	151.1	151.0	-90.00	10,053.6	-949.7	924.0	622.1	301.87	3.061	
19,968.0	9,734.0	20,011.3	9,734.0	151.8	151.9	-90.00	10,113.8	-950.1	924.0	620.6	303.45	3.045	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 601H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	-176.87	-160.0	-8.7	160.2				
100.0	100.0	97.8	97.8	0.1	0.1	-176.87	-160.0	-8.7	160.2	160.0	0.26	614.857	
200.0	200.0	197.8	197.8	0.5	0.5	-176.87	-160.0	-8.7	160.2	159.2	0.97	164.743	
300.0	300.0	297.8	297.8	0.8	0.8	-176.87	-160.0	-8.7	160.2	158.5	1.69	94.833	
400.0	400.0	397.8	397.8	1.2	1.2	-176.87	-160.0	-8.7	160.2	157.8	2.41	66.580	
500.0	500.0	497.8	497.8	1.6	1.6	-176.87	-160.0	-8.7	160.2	157.1	3.12	51.297	
600.0	600.0	597.8	597.8	1.9	1.9	-176.87	-160.0	-8.7	160.2	156.4	3.84	41.720	
700.0	700.0	697.8	697.8	2.3	2.3	-176.87	-160.0	-8.7	160.2	155.7	4.56	35.157	
800.0	800.0	797.8	797.8	2.6	2.6	-176.87	-160.0	-8.7	160.2	154.9	5.27	30.378	
900.0	900.0	897.8	897.8	3.0	3.0	-176.87	-160.0	-8.7	160.2	154.2	5.99	26.743	
1,000.0	1,000.0	997.8	997.8	3.4	3.4	-176.87	-160.0	-8.7	160.2	153.5	6.71	23.884	
1,100.0	1,100.0	1,097.8	1,097.8	3.7	3.7	-176.87	-160.0	-8.7	160.2	152.8	7.43	21.578	
1,200.0	1,200.0	1,197.8	1,197.8	4.1	4.1	-176.87	-160.0	-8.7	160.2	152.1	8.14	19.678	
1,300.0	1,300.0	1,297.8	1,297.8	4.4	4.4	-176.87	-160.0	-8.7	160.2	151.4	8.86	18.086	
1,400.0	1,400.0	1,397.8	1,397.8	4.8	4.8	-176.87	-160.0	-8.7	160.2	150.6	9.58	16.732	
1,500.0	1,500.0	1,497.8	1,497.8	5.2	5.1	-176.87	-160.0	-8.7	160.2	149.9	10.29	15.566	
1,600.0	1,600.0	1,597.8	1,597.8	5.5	5.5	-176.87	-160.0	-8.7	160.2	149.2	11.01	14.552	
1,700.0	1,700.0	1,697.8	1,697.8	5.9	5.9	-176.87	-160.0	-8.7	160.2	148.5	11.73	13.663	
1,800.0	1,800.0	1,797.8	1,797.8	6.2	6.2	-176.87	-160.0	-8.7	160.2	147.8	12.44	12.876	
1,900.0	1,900.0	1,897.8	1,897.8	6.6	6.6	-176.87	-160.0	-8.7	160.2	147.1	13.16	12.174	
2,000.0	2,000.0	1,997.8	1,997.8	6.9	6.9	-176.87	-160.0	-8.7	160.2	146.3	13.88	11.545	
2,100.0	2,100.0	2,096.5	2,096.5	7.3	7.3	18.16	-160.3	-10.3	158.9	144.4	14.56	10.914	
2,200.0	2,199.8	2,194.9	2,194.7	7.6	7.6	20.57	-161.1	-15.3	155.3	140.1	15.22	10.202	
2,300.0	2,299.5	2,292.5	2,292.0	7.9	7.9	24.81	-162.5	-23.4	149.9	134.0	15.88	9.438	
2,400.0	2,398.8	2,390.3	2,389.2	8.3	8.3	30.80	-164.3	-34.3	144.3	127.7	16.54	8.721	
2,500.0	2,498.1	2,488.9	2,487.1	8.6	8.6	37.35	-166.2	-45.6	140.4	123.2	17.21	8.159	
2,600.0	2,597.5	2,587.5	2,585.0	8.9	9.0	44.16	-168.1	-56.8	138.5	120.7	17.88	7.747	
2,641.2	2,638.4	2,628.1	2,625.4	9.1	9.1	47.00	-168.9	-61.5	138.4	120.2	18.16	7.618 CC	
2,700.0	2,696.8	2,686.0	2,682.9	9.3	9.3	51.05	-170.0	-68.1	138.7	120.2	18.56	7.474 ES	
2,800.0	2,796.1	2,784.6	2,780.8	9.6	9.7	57.82	-171.9	-79.3	141.0	121.7	19.24	7.325	
2,900.0	2,895.5	2,883.2	2,878.7	10.0	10.1	64.31	-173.8	-90.6	145.1	125.2	19.93	7.282	
3,000.0	2,994.8	2,981.7	2,976.6	10.4	10.4	70.36	-175.7	-101.8	151.1	130.5	20.62	7.328	
3,100.0	3,094.2	3,080.3	3,074.5	10.7	10.8	75.92	-177.6	-113.0	158.6	137.3	21.31	7.443	
3,200.0	3,193.5	3,178.8	3,172.4	11.1	11.1	80.93	-179.5	-124.3	167.5	145.5	22.01	7.612	
3,300.0	3,292.8	3,277.4	3,270.3	11.4	11.5	85.42	-181.4	-135.5	177.6	154.9	22.71	7.820	
3,400.0	3,392.2	3,376.0	3,368.2	11.8	11.9	89.41	-183.3	-146.8	188.7	165.3	23.42	8.056	
3,500.0	3,491.5	3,474.5	3,466.1	12.2	12.2	92.96	-185.2	-158.0	200.6	176.4	24.13	8.311	
3,600.0	3,590.8	3,573.1	3,564.0	12.5	12.6	96.10	-187.1	-169.2	213.1	188.3	24.84	8.578	
3,700.0	3,690.2	3,671.6	3,661.9	12.9	13.0	98.89	-189.0	-180.5	226.2	200.7	25.56	8.851	
3,800.0	3,789.5	3,770.2	3,759.8	13.3	13.4	101.37	-190.9	-191.7	239.8	213.6	26.28	9.126	
3,900.0	3,888.8	3,868.8	3,857.7	13.7	13.7	103.58	-192.8	-203.0	253.8	226.8	27.00	9.401	
4,000.0	3,988.2	3,967.3	3,955.6	14.0	14.1	105.56	-194.7	-214.2	268.2	240.4	27.72	9.673	
4,100.0	4,087.5	4,065.9	4,053.5	14.4	14.5	107.34	-196.6	-225.5	282.8	254.3	28.45	9.940	
4,200.0	4,186.9	4,164.4	4,151.4	14.8	14.8	108.95	-198.5	-236.7	297.6	268.5	29.18	10.202	
4,300.0	4,286.2	4,263.0	4,249.3	15.2	15.2	110.40	-200.4	-247.9	312.7	282.8	29.90	10.457	
4,400.0	4,385.5	4,361.6	4,347.2	15.5	15.6	111.72	-202.3	-259.2	327.9	297.3	30.63	10.706	
4,500.0	4,484.9	4,460.1	4,445.1	15.9	16.0	112.92	-204.2	-270.4	343.3	312.0	31.36	10.948	
4,600.0	4,584.2	4,558.7	4,543.0	16.3	16.3	114.02	-206.1	-281.7	358.9	326.8	32.09	11.182	
4,700.0	4,683.5	4,657.2	4,640.9	16.7	16.7	115.06	-208.0	-292.9	374.5	341.7	32.83	11.409	
4,800.0	4,783.1	4,756.1	4,739.0	17.0	17.1	115.97	-209.9	-304.2	389.3	355.8	33.55	11.603	
4,900.0	4,882.9	4,855.2	4,837.5	17.4	17.5	116.35	-211.9	-315.5	402.6	368.4	34.28	11.748	
5,000.0	4,982.9	4,954.4	4,936.1	17.8	17.9	116.25	-213.8	-326.8	414.4	379.4	34.99	11.845	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 601H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,082.9	5,053.8	5,034.7	18.1	18.2	-78.55	-215.7	-338.1	425.2	389.6	35.68	11.917	
5,200.0	5,182.9	5,153.1	5,133.4	18.4	18.6	-79.10	-217.6	-349.5	436.1	399.7	36.38	11.986	
5,300.0	5,282.9	5,252.4	5,232.1	18.8	19.0	-79.61	-219.5	-360.8	446.9	409.8	37.08	12.053	
5,400.0	5,382.9	5,351.7	5,330.7	19.1	19.4	-80.11	-221.4	-372.1	457.8	420.0	37.78	12.119	
5,500.0	5,482.9	5,451.1	5,429.4	19.4	19.8	-80.58	-223.4	-383.5	468.8	430.3	38.48	12.183	
5,600.0	5,582.9	5,550.4	5,528.0	19.8	20.2	-81.03	-225.3	-394.8	479.7	440.5	39.18	12.245	
5,700.0	5,682.9	5,649.7	5,626.7	20.1	20.5	-81.46	-227.2	-406.1	490.7	450.8	39.88	12.305	
5,800.0	5,782.9	5,749.1	5,725.4	20.5	20.9	-81.87	-229.1	-417.4	501.7	461.1	40.58	12.364	
5,900.0	5,882.9	5,848.4	5,824.0	20.8	21.3	-82.26	-231.0	-428.8	512.8	471.5	41.28	12.422	
6,000.0	5,982.9	5,947.7	5,922.7	21.1	21.7	-82.64	-232.9	-440.1	523.8	481.8	41.98	12.477	
6,100.0	6,082.9	6,047.0	6,021.4	21.5	22.1	-83.00	-234.9	-451.4	534.9	492.2	42.68	12.531	
6,200.0	6,182.9	6,146.4	6,120.0	21.8	22.5	-83.35	-236.8	-462.8	546.0	502.6	43.39	12.584	
6,300.0	6,282.9	6,245.7	6,218.7	22.2	22.9	-83.68	-238.7	-474.1	557.1	513.0	44.09	12.635	
6,400.0	6,382.9	6,345.0	6,317.3	22.5	23.2	-84.00	-240.6	-485.4	568.3	523.5	44.80	12.685	
6,500.0	6,482.9	6,444.4	6,416.0	22.8	23.6	-84.31	-242.5	-496.8	579.4	533.9	45.50	12.734	
6,600.0	6,582.9	6,543.7	6,514.7	23.2	24.0	-84.61	-244.4	-508.1	590.6	544.4	46.21	12.781	
6,700.0	6,682.9	6,643.0	6,613.3	23.5	24.4	-84.89	-246.3	-519.4	601.8	554.9	46.91	12.827	
6,800.0	6,782.9	6,742.3	6,712.0	23.9	24.8	-85.16	-248.3	-530.7	613.0	565.4	47.62	12.872	
6,900.0	6,882.9	6,841.7	6,810.7	24.2	25.2	-85.43	-250.2	-542.1	624.2	575.9	48.33	12.916	
7,000.0	6,982.9	6,941.0	6,909.3	24.6	25.6	-85.68	-252.1	-553.4	635.4	586.4	49.03	12.959	
7,100.0	7,082.9	7,040.3	7,008.0	24.9	25.9	-85.93	-254.0	-564.7	646.7	596.9	49.74	13.001	
7,200.0	7,182.9	7,139.7	7,106.6	25.3	26.3	-86.17	-255.9	-576.1	657.9	607.5	50.45	13.041	
7,300.0	7,282.9	7,239.0	7,205.3	25.6	26.7	-86.40	-257.8	-587.4	669.2	618.0	51.16	13.081	
7,400.0	7,382.9	7,338.3	7,304.0	25.9	27.1	-86.62	-259.8	-598.7	680.4	628.6	51.87	13.119	
7,500.0	7,482.9	7,437.6	7,402.6	26.3	27.5	-86.84	-261.7	-610.0	691.7	639.1	52.57	13.157	
7,600.0	7,582.9	7,537.0	7,501.3	26.6	27.9	-87.04	-263.6	-621.4	703.0	649.7	53.28	13.194	
7,700.0	7,682.9	7,636.3	7,599.9	27.0	28.3	-87.25	-265.5	-632.7	714.3	660.3	53.99	13.229	
7,800.0	7,782.9	7,735.6	7,698.6	27.3	28.6	-87.44	-267.4	-644.0	725.6	670.9	54.70	13.264	
7,900.0	7,882.9	7,835.0	7,797.3	27.7	29.0	-87.63	-269.3	-655.4	736.9	681.5	55.41	13.299	
8,000.0	7,982.9	7,934.3	7,895.9	28.0	29.4	-87.81	-271.3	-666.7	748.3	692.1	56.13	13.332	
8,100.0	8,082.9	8,033.6	7,994.6	28.4	29.8	-87.99	-273.2	-678.0	759.6	702.7	56.84	13.364	
8,200.0	8,182.9	8,132.9	8,093.3	28.7	30.2	-88.17	-275.1	-689.4	770.9	713.4	57.55	13.396	
8,300.0	8,282.9	8,232.3	8,191.9	29.1	30.6	-88.33	-277.0	-700.7	782.3	724.0	58.26	13.427	
8,400.0	8,382.9	8,331.6	8,290.6	29.4	31.0	-88.50	-278.9	-712.0	793.6	734.6	58.97	13.458	
8,500.0	8,482.9	8,430.9	8,389.2	29.8	31.4	-88.66	-280.8	-723.3	805.0	745.3	59.68	13.488	
8,600.0	8,582.9	8,530.3	8,487.9	30.1	31.7	-88.81	-282.8	-734.7	816.3	755.9	60.40	13.517	
8,700.0	8,682.9	8,629.6	8,586.6	30.5	32.1	-88.96	-284.7	-746.0	827.7	766.6	61.11	13.545	
8,800.0	8,782.9	8,728.9	8,685.2	30.8	32.5	-89.10	-286.6	-757.3	839.1	777.3	61.82	13.573	
8,900.0	8,882.9	8,828.2	8,783.9	31.2	32.9	-89.25	-288.5	-768.7	850.5	787.9	62.53	13.600	
9,000.0	8,982.9	8,927.6	8,882.5	31.5	33.3	-89.39	-290.4	-780.0	861.9	798.6	63.25	13.627	
9,100.0	9,082.9	9,026.9	8,981.2	31.9	33.7	-89.52	-292.3	-791.3	873.2	809.3	63.96	13.653	
9,200.0	9,182.9	9,126.2	9,079.9	32.2	34.1	-89.65	-294.3	-802.7	884.6	820.0	64.67	13.678	
9,300.0	9,282.9	9,225.5	9,178.5	32.6	34.5	-89.77	-296.2	-814.0	896.0	830.6	65.39	13.703	
9,400.0	9,381.4	9,323.2	9,275.5	32.9	34.8	-89.82	-298.1	-825.1	906.4	840.3	66.06	13.720	
9,500.0	9,474.5	9,415.2	9,366.9	33.2	35.2	-89.82	-299.8	-835.6	916.2	849.5	66.67	13.742	
9,600.0	9,558.1	9,497.6	9,448.7	33.4	35.5	-89.84	-301.4	-845.0	927.3	860.1	67.21	13.798	
9,700.0	9,628.4	9,566.6	9,517.3	33.7	35.8	-89.88	-302.7	-852.9	942.2	874.5	67.67	13.923	
9,800.0	9,682.6	9,619.9	9,570.2	33.9	36.0	-89.76	-303.8	-859.0	963.1	895.0	68.07	14.148	
9,900.0	9,718.1	9,671.5	9,621.5	34.0	36.2	-89.17	-304.7	-864.4	991.3	922.7	68.52	14.467	
10,000.0	9,733.4	9,693.1	9,643.1	34.2	36.3	-85.86	-305.0	-866.4	1,027.1	958.3	68.81	14.926	
10,100.0	9,734.0	9,692.4	9,642.4	34.4	36.3	-84.50	-305.0	-866.3	1,071.1	1,002.1	69.00	15.522	
10,200.0	9,734.0	9,690.3	9,640.3	34.7	36.3	-84.27	-305.0	-866.1	1,125.0	1,055.8	69.21	16.255	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 601H - OH - Plan 0.1												Offset Site Error: 0.0 usft			
Survey Program: Reference		0-B001Mb_MWD+HRGM Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,300.0	9,734.0	9,688.1	9,638.1	35.0	36.3	-84.13	-304.9	-865.9	1,185.8	1,116.3	69.42	17.081			
10,400.0	9,734.0	11,228.3	10,529.0	35.3	39.9	-130.79	546.8	-883.7	1,220.3	1,159.7	60.59	20.140			
10,500.0	9,734.0	11,328.3	10,529.0	35.8	40.3	-130.79	646.8	-884.4	1,220.3	1,159.1	61.25	19.923			
10,600.0	9,734.0	11,428.3	10,529.0	36.2	40.7	-130.79	746.8	-885.1	1,220.3	1,158.3	62.00	19.682			
10,700.0	9,734.0	11,528.3	10,529.0	36.8	41.2	-130.79	846.8	-885.8	1,220.3	1,157.5	62.84	19.421			
10,800.0	9,734.0	11,628.3	10,529.0	37.3	41.8	-130.79	946.8	-886.4	1,220.3	1,156.6	63.75	19.142			
10,900.0	9,734.0	11,728.3	10,529.0	37.9	42.3	-130.79	1,046.8	-887.1	1,220.3	1,155.6	64.74	18.849			
11,000.0	9,734.0	11,828.3	10,529.0	38.6	43.0	-130.79	1,146.8	-887.8	1,220.3	1,154.5	65.81	18.543			
11,100.0	9,734.0	11,928.3	10,529.0	39.3	43.7	-130.79	1,246.8	-888.5	1,220.3	1,153.4	66.95	18.229			
11,200.0	9,734.0	12,028.3	10,529.0	40.1	44.4	-130.79	1,346.8	-889.2	1,220.3	1,152.2	68.15	17.907			
11,300.0	9,734.0	12,128.3	10,529.0	40.8	45.1	-130.79	1,446.8	-889.9	1,220.3	1,150.9	69.42	17.580			
11,400.0	9,734.0	12,228.3	10,529.0	41.7	45.9	-130.79	1,546.8	-890.6	1,220.3	1,149.6	70.75	17.250			
11,500.0	9,734.0	12,328.3	10,529.0	42.5	46.7	-130.79	1,646.8	-891.3	1,220.3	1,148.2	72.13	16.919			
11,600.0	9,734.0	12,428.3	10,529.0	43.4	47.6	-130.79	1,746.8	-892.0	1,220.3	1,146.8	73.57	16.588			
11,700.0	9,734.0	12,528.3	10,529.0	44.3	48.4	-130.79	1,846.8	-892.7	1,220.3	1,145.3	75.06	16.259			
11,800.0	9,734.0	12,628.3	10,529.0	45.3	49.3	-130.79	1,946.8	-893.4	1,220.3	1,143.8	76.59	15.933			
11,900.0	9,734.0	12,728.3	10,529.0	46.2	50.2	-130.79	2,046.8	-894.1	1,220.3	1,142.2	78.17	15.611			
12,000.0	9,734.0	12,828.3	10,529.0	47.2	51.2	-130.79	2,146.8	-894.8	1,220.3	1,140.6	79.80	15.293			
12,100.0	9,734.0	12,928.3	10,529.0	48.2	52.2	-130.79	2,246.8	-895.5	1,220.3	1,138.9	81.46	14.981			
12,200.0	9,734.0	13,028.3	10,529.0	49.3	53.1	-130.79	2,346.8	-896.2	1,220.3	1,137.2	83.16	14.675			
12,300.0	9,734.0	13,128.3	10,529.0	50.3	54.2	-130.79	2,446.8	-896.9	1,220.3	1,135.5	84.89	14.375			
12,400.0	9,734.0	13,228.3	10,529.0	51.4	55.2	-130.79	2,546.8	-897.6	1,220.3	1,133.7	86.66	14.082			
12,500.0	9,734.0	13,328.3	10,529.0	52.5	56.2	-130.79	2,646.8	-898.2	1,220.3	1,131.9	88.46	13.795			
12,600.0	9,734.0	13,428.3	10,529.0	53.6	57.3	-130.79	2,746.8	-898.9	1,220.3	1,130.1	90.29	13.516			
12,700.0	9,734.0	13,528.3	10,529.0	54.7	58.4	-130.79	2,846.8	-899.6	1,220.3	1,128.2	92.14	13.244			
12,800.0	9,734.0	13,628.3	10,529.0	55.9	59.5	-130.79	2,946.8	-900.3	1,220.3	1,126.3	94.02	12.979			
12,900.0	9,734.0	13,728.3	10,529.0	57.0	60.6	-130.79	3,046.8	-901.0	1,220.3	1,124.4	95.93	12.721			
13,000.0	9,734.0	13,828.3	10,529.0	58.2	61.7	-130.79	3,146.8	-901.7	1,220.4	1,122.5	97.86	12.471			
13,100.0	9,734.0	13,928.3	10,529.0	59.4	62.9	-130.79	3,246.8	-902.4	1,220.4	1,120.5	99.81	12.227			
13,200.0	9,734.0	14,028.3	10,529.0	60.6	64.0	-130.79	3,346.8	-903.1	1,220.4	1,118.6	101.78	11.991			
13,300.0	9,734.0	14,128.3	10,529.0	61.8	65.2	-130.79	3,446.8	-903.8	1,220.4	1,116.6	103.76	11.761			
13,400.0	9,734.0	14,228.3	10,529.0	63.0	66.4	-130.79	3,546.8	-904.5	1,220.4	1,114.6	105.77	11.538			
13,500.0	9,734.0	14,328.3	10,529.0	64.2	67.5	-130.79	3,646.8	-905.2	1,220.4	1,112.6	107.80	11.321			
13,600.0	9,734.0	14,428.3	10,529.0	65.4	68.7	-130.79	3,746.8	-905.9	1,220.4	1,110.5	109.84	11.111			
13,700.0	9,734.0	14,528.3	10,529.0	66.7	69.9	-130.79	3,846.7	-906.6	1,220.4	1,108.5	111.89	10.907			
13,800.0	9,734.0	14,628.3	10,529.0	67.9	71.2	-130.79	3,946.7	-907.3	1,220.4	1,106.4	113.96	10.709			
13,900.0	9,734.0	14,728.3	10,529.0	69.2	72.4	-130.79	4,046.7	-908.0	1,220.4	1,104.3	116.04	10.516			
14,000.0	9,734.0	14,828.3	10,529.0	70.4	73.6	-130.79	4,146.7	-908.7	1,220.4	1,102.2	118.14	10.330			
14,100.0	9,734.0	14,928.3	10,529.0	71.7	74.8	-130.79	4,246.7	-909.4	1,220.4	1,100.1	120.25	10.149			
14,200.0	9,734.0	15,028.3	10,529.0	73.0	76.1	-130.79	4,346.7	-910.0	1,220.4	1,098.0	122.37	9.973			
14,300.0	9,734.0	15,128.3	10,529.0	74.3	77.3	-130.79	4,446.7	-910.7	1,220.4	1,095.9	124.50	9.802			
14,400.0	9,734.0	15,228.3	10,529.0	75.6	78.6	-130.79	4,546.7	-911.4	1,220.4	1,093.7	126.64	9.636			
14,500.0	9,734.0	15,328.3	10,529.0	76.9	79.9	-130.79	4,646.7	-912.1	1,220.4	1,091.6	128.79	9.476			
14,600.0	9,734.0	15,428.3	10,529.0	78.2	81.1	-130.79	4,746.7	-912.8	1,220.4	1,089.4	130.95	9.319			
14,700.0	9,734.0	15,528.3	10,529.0	79.5	82.4	-130.79	4,846.7	-913.5	1,220.4	1,087.2	133.12	9.167			
14,800.0	9,734.0	15,628.3	10,529.0	80.8	83.7	-130.79	4,946.7	-914.2	1,220.4	1,085.1	135.30	9.020			
14,900.0	9,734.0	15,728.3	10,529.0	82.1	85.0	-130.79	5,046.7	-914.9	1,220.4	1,082.9	137.49	8.876			
15,000.0	9,734.0	15,828.3	10,529.0	83.4	86.3	-130.79	5,146.7	-915.6	1,220.4	1,080.7	139.68	8.737			
15,100.0	9,734.0	15,928.3	10,529.0	84.7	87.6	-130.79	5,246.7	-916.3	1,220.4	1,078.5	141.88	8.601			
15,200.0	9,734.0	16,028.3	10,529.0	86.1	88.9	-130.79	5,346.7	-917.0	1,220.4	1,076.3	144.09	8.469			
15,300.0	9,734.0	16,128.3	10,529.0	87.4	90.2	-130.79	5,446.7	-917.7	1,220.4	1,074.1	146.30	8.341			
15,400.0	9,734.0	16,228.3	10,529.0	88.7	91.5	-130.79	5,546.7	-918.4	1,220.4	1,071.8	148.53	8.216			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 601H - OH - Plan 0.1													Offset Site Error: 0.0 usft	
Survey Program:		0-B001Mb_MWD+HRGM						Rule Assigned:					Offset Well Error: 0.0 usft	
Measured Depth	Reference	Measured Depth	Offset	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Separation Factor	Warning	
(usft)	Vertical Depth (usft)	(usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
15,500.0	9,734.0	16,328.3	10,529.0	90.1	92.8	-130.79	5,646.7	-919.1	1,220.4	1,069.6	150.75	8.095		
15,600.0	9,734.0	16,428.3	10,529.0	91.4	94.1	-130.79	5,746.7	-919.8	1,220.4	1,067.4	152.99	7.977		
15,700.0	9,734.0	16,528.3	10,529.0	92.8	95.5	-130.79	5,846.7	-920.5	1,220.4	1,065.1	155.23	7.862		
15,800.0	9,734.0	16,628.3	10,529.0	94.1	96.8	-130.79	5,946.7	-921.2	1,220.4	1,062.9	157.47	7.750		
15,900.0	9,734.0	16,728.3	10,529.0	95.5	98.1	-130.79	6,046.7	-921.9	1,220.4	1,060.6	159.72	7.641		
16,000.0	9,734.0	16,828.3	10,529.0	96.8	99.5	-130.79	6,146.7	-922.5	1,220.4	1,058.4	161.98	7.534		
16,100.0	9,734.0	16,928.3	10,529.0	98.2	100.8	-130.79	6,246.7	-923.2	1,220.4	1,056.1	164.24	7.431		
16,200.0	9,734.0	17,028.3	10,529.0	99.5	102.1	-130.79	6,346.7	-923.9	1,220.4	1,053.9	166.50	7.329		
16,300.0	9,734.0	17,128.3	10,529.0	100.9	103.5	-130.79	6,446.7	-924.6	1,220.4	1,051.6	168.77	7.231		
16,400.0	9,734.0	17,228.3	10,529.0	102.3	104.8	-130.79	6,546.7	-925.3	1,220.4	1,049.3	171.04	7.135		
16,500.0	9,734.0	17,328.3	10,529.0	103.6	106.2	-130.79	6,646.7	-926.0	1,220.4	1,047.0	173.32	7.041		
16,600.0	9,734.0	17,428.3	10,529.0	105.0	107.5	-130.79	6,746.7	-926.7	1,220.4	1,044.8	175.60	6.950		
16,700.0	9,734.0	17,528.3	10,529.0	106.4	108.9	-130.79	6,846.7	-927.4	1,220.4	1,042.5	177.88	6.860		
16,800.0	9,734.0	17,628.3	10,529.0	107.7	110.2	-130.79	6,946.7	-928.1	1,220.4	1,040.2	180.17	6.773		
16,900.0	9,734.0	17,728.3	10,529.0	109.1	111.6	-130.79	7,046.7	-928.8	1,220.4	1,037.9	182.46	6.688		
17,000.0	9,734.0	17,828.3	10,529.0	110.5	112.9	-130.79	7,146.7	-929.5	1,220.4	1,035.6	184.76	6.605		
17,100.0	9,734.0	17,928.3	10,529.0	111.9	114.3	-130.79	7,246.7	-930.2	1,220.4	1,033.3	187.05	6.524		
17,200.0	9,734.0	18,028.3	10,529.0	113.2	115.7	-130.79	7,346.7	-930.9	1,220.4	1,031.0	189.36	6.445		
17,300.0	9,734.0	18,128.3	10,529.0	114.6	117.0	-130.79	7,446.7	-931.6	1,220.4	1,028.7	191.66	6.367		
17,400.0	9,734.0	18,228.3	10,529.0	116.0	118.4	-130.79	7,546.7	-932.3	1,220.4	1,026.4	193.97	6.292		
17,500.0	9,734.0	18,328.3	10,529.0	117.4	119.8	-130.79	7,646.7	-933.0	1,220.4	1,024.1	196.28	6.218		
17,600.0	9,734.0	18,428.3	10,529.0	118.8	121.1	-130.79	7,746.7	-933.7	1,220.4	1,021.8	198.59	6.145		
17,700.0	9,734.0	18,528.3	10,529.0	120.2	122.5	-130.79	7,846.7	-934.3	1,220.4	1,019.5	200.90	6.074		
17,800.0	9,734.0	18,628.3	10,529.0	121.6	123.9	-130.79	7,946.6	-935.0	1,220.4	1,017.1	203.22	6.005		
17,900.0	9,734.0	18,728.3	10,529.0	122.9	125.3	-130.79	8,046.6	-935.7	1,220.4	1,014.8	205.54	5.937		
18,000.0	9,734.0	18,828.3	10,529.0	124.3	126.6	-130.79	8,146.6	-936.4	1,220.4	1,012.5	207.86	5.871		
18,100.0	9,734.0	18,928.3	10,529.0	125.7	128.0	-130.79	8,246.6	-937.1	1,220.4	1,010.2	210.19	5.806		
18,200.0	9,734.0	19,028.3	10,529.0	127.1	129.4	-130.79	8,346.6	-937.8	1,220.4	1,007.9	212.51	5.743		
18,300.0	9,734.0	19,128.3	10,529.0	128.5	130.8	-130.79	8,446.6	-938.5	1,220.4	1,005.5	214.84	5.680		
18,400.0	9,734.0	19,228.3	10,529.0	129.9	132.2	-130.79	8,546.6	-939.2	1,220.4	1,003.2	217.17	5.619		
18,500.0	9,734.0	19,328.3	10,529.0	131.3	133.6	-130.79	8,646.6	-939.9	1,220.4	1,000.9	219.50	5.560		
18,600.0	9,734.0	19,428.3	10,529.0	132.7	134.9	-130.79	8,746.6	-940.6	1,220.4	998.5	221.84	5.501		
18,700.0	9,734.0	19,528.3	10,529.0	134.1	136.3	-130.79	8,846.6	-941.3	1,220.4	996.2	224.17	5.444		
18,800.0	9,734.0	19,628.3	10,529.0	135.5	137.7	-130.79	8,946.6	-942.0	1,220.4	993.9	226.51	5.388		
18,900.0	9,734.0	19,728.3	10,529.0	136.9	139.1	-130.79	9,046.6	-942.7	1,220.4	991.5	228.85	5.333		
19,000.0	9,734.0	19,828.3	10,529.0	138.3	140.5	-130.79	9,146.6	-943.4	1,220.4	989.2	231.19	5.279		
19,100.0	9,734.0	19,928.3	10,529.0	139.7	141.9	-130.79	9,246.6	-944.1	1,220.4	986.8	233.54	5.226		
19,200.0	9,734.0	20,028.3	10,529.0	141.1	143.3	-130.79	9,346.6	-944.8	1,220.4	984.5	235.88	5.174		
19,300.0	9,734.0	20,128.3	10,529.0	142.5	144.7	-130.79	9,446.6	-945.5	1,220.4	982.1	238.23	5.123		
19,400.0	9,734.0	20,228.3	10,529.0	143.9	146.1	-130.79	9,546.6	-946.1	1,220.4	979.8	240.58	5.073		
19,500.0	9,734.0	20,328.3	10,529.0	145.3	147.5	-130.79	9,646.6	-946.8	1,220.4	977.4	242.92	5.024		
19,600.0	9,734.0	20,428.3	10,529.0	146.7	148.9	-130.79	9,746.6	-947.5	1,220.4	975.1	245.28	4.976		
19,700.0	9,734.0	20,528.3	10,529.0	148.2	150.3	-130.79	9,846.6	-948.2	1,220.4	972.7	247.63	4.928		
19,800.0	9,734.0	20,628.3	10,529.0	149.6	151.7	-130.79	9,946.6	-948.9	1,220.4	970.4	249.98	4.882		
19,900.0	9,734.0	20,728.3	10,529.0	151.0	153.1	-130.79	10,046.6	-949.6	1,220.4	968.0	252.34	4.836		
19,907.1	9,734.0	20,735.4	10,529.0	151.1	153.2	-130.79	10,053.7	-949.7	1,220.4	967.9	252.48	4.833		
19,968.0	9,734.0	20,795.2	10,529.0	151.8	154.0	-130.79	10,113.5	-950.1	1,220.4	966.6	253.75	4.809 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 602H - OH - Plan 0.1											Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
0.0	0.0	0.0	0.0	0.0	0.0	176.02	-159.9	11.1	160.3			
100.0	100.0	97.6	97.6	0.1	0.1	176.02	-159.9	11.1	160.3	160.0	0.26	615.742
200.0	200.0	197.6	197.6	0.5	0.5	176.02	-159.9	11.1	160.3	159.3	0.97	164.935
300.0	300.0	297.6	297.6	0.8	0.8	176.02	-159.9	11.1	160.3	158.6	1.69	94.914
400.0	400.0	397.6	397.6	1.2	1.2	176.02	-159.9	11.1	160.3	157.9	2.41	66.628
500.0	500.0	497.6	497.6	1.6	1.6	176.02	-159.9	11.1	160.3	157.2	3.12	51.330
600.0	600.0	597.6	597.6	1.9	1.9	176.02	-159.9	11.1	160.3	156.4	3.84	41.746
700.0	700.0	697.6	697.6	2.3	2.3	176.02	-159.9	11.1	160.3	155.7	4.56	35.177
800.0	800.0	797.6	797.6	2.6	2.6	176.02	-159.9	11.1	160.3	155.0	5.27	30.395
900.0	900.0	897.6	897.6	3.0	3.0	176.02	-159.9	11.1	160.3	154.3	5.99	26.757
1,000.0	1,000.0	997.6	997.6	3.4	3.3	176.02	-159.9	11.1	160.3	153.6	6.71	23.897
1,100.0	1,100.0	1,097.6	1,097.6	3.7	3.7	176.02	-159.9	11.1	160.3	152.9	7.42	21.589
1,200.0	1,200.0	1,197.6	1,197.6	4.1	4.1	176.02	-159.9	11.1	160.3	152.1	8.14	19.688
1,300.0	1,300.0	1,297.6	1,297.6	4.4	4.4	176.02	-159.9	11.1	160.3	151.4	8.86	18.095
1,400.0	1,400.0	1,397.6	1,397.6	4.8	4.8	176.02	-159.9	11.1	160.3	150.7	9.58	16.740
1,500.0	1,500.0	1,497.6	1,497.6	5.2	5.1	176.02	-159.9	11.1	160.3	150.0	10.29	15.574
1,600.0	1,600.0	1,597.6	1,597.6	5.5	5.5	176.02	-159.9	11.1	160.3	149.3	11.01	14.560
1,700.0	1,700.0	1,697.6	1,697.6	5.9	5.9	176.02	-159.9	11.1	160.3	148.6	11.73	13.669
1,800.0	1,800.0	1,797.6	1,797.6	6.2	6.2	176.02	-159.9	11.1	160.3	147.8	12.44	12.882
1,900.0	1,900.0	1,897.6	1,897.6	6.6	6.6	176.02	-159.9	11.1	160.3	147.1	13.16	12.180
2,000.0	2,000.0	1,997.6	1,997.6	6.9	6.9	176.02	-159.9	11.1	160.3	146.4	13.88	11.551
2,100.0	2,100.0	2,097.6	2,097.6	7.3	7.3	10.41	-159.9	11.1	158.6	144.0	14.58	10.879
2,200.0	2,199.8	2,197.4	2,197.4	7.6	7.7	10.78	-159.9	11.1	153.4	138.2	15.26	10.054
2,300.0	2,299.5	2,297.1	2,297.1	7.9	8.0	11.46	-159.9	11.1	144.9	128.9	15.95	9.086
2,400.0	2,398.8	2,396.4	2,396.4	8.3	8.4	12.44	-159.9	11.1	133.8	117.1	16.63	8.043
2,500.0	2,498.1	2,495.7	2,495.7	8.6	8.7	13.59	-159.9	11.1	122.6	105.2	17.32	7.076
2,600.0	2,597.5	2,595.1	2,595.1	8.9	9.1	14.98	-159.9	11.1	111.4	93.4	18.01	6.186
2,700.0	2,696.8	2,694.4	2,694.4	9.3	9.4	16.68	-159.9	11.1	100.3	81.6	18.70	5.364
2,800.0	2,796.1	2,793.7	2,793.7	9.6	9.8	18.80	-159.9	11.1	89.4	70.0	19.40	4.606
2,900.0	2,895.5	2,893.1	2,893.1	10.0	10.1	21.50	-159.9	11.1	78.6	58.5	20.10	3.908
3,000.0	2,994.8	2,992.4	2,992.4	10.4	10.5	25.06	-159.9	11.1	68.0	47.2	20.80	3.267
3,100.0	3,094.2	3,091.8	3,091.8	10.7	10.9	29.89	-159.9	11.1	57.7	36.2	21.51	2.684
3,200.0	3,193.5	3,191.1	3,191.1	11.1	11.2	36.72	-159.9	11.1	48.1	25.9	22.23	2.163
3,300.0	3,292.8	3,290.4	3,290.4	11.4	11.6	46.73	-159.9	11.1	39.4	16.5	22.96	1.718
3,400.0	3,392.2	3,389.8	3,389.8	11.8	11.9	61.53	-159.9	11.1	32.6	8.9	23.70	1.376 Level 3
3,500.0	3,491.5	3,489.1	3,489.1	12.2	12.3	81.86	-159.9	11.1	28.9	4.5	24.45	1.183 Level 2
3,535.8	3,527.0	3,524.6	3,524.6	12.3	12.4	89.99	-159.9	11.1	28.6	3.9	24.71	1.158 Level 2, CC
3,600.0	3,590.8	3,588.4	3,588.4	12.5	12.6	104.37	-159.9	11.1	29.6	4.4	25.16	1.175 Level 2
3,700.0	3,690.2	3,687.8	3,687.8	12.9	13.0	123.24	-159.9	11.1	34.3	8.5	25.84	1.327 Level 3
3,800.0	3,789.5	3,787.1	3,787.1	13.3	13.3	136.52	-159.9	11.1	41.8	15.2	26.51	1.575
3,900.0	3,888.8	3,886.4	3,886.4	13.7	13.7	145.48	-159.9	11.1	50.7	23.5	27.20	1.866
4,000.0	3,988.2	3,985.8	3,985.8	14.0	14.1	151.65	-159.9	11.1	60.6	32.7	27.89	2.173
4,100.0	4,087.5	4,085.1	4,085.1	14.4	14.4	156.06	-159.9	11.1	70.9	42.4	28.59	2.482
4,200.0	4,186.9	4,184.5	4,184.5	14.8	14.8	159.34	-159.9	11.1	81.6	52.3	29.29	2.786
4,300.0	4,286.2	4,283.8	4,283.8	15.2	15.1	161.85	-159.9	11.1	92.5	62.5	29.99	3.083
4,400.0	4,385.5	4,383.1	4,383.1	15.5	15.5	163.84	-159.9	11.1	103.5	72.8	30.70	3.370
4,500.0	4,484.9	4,482.5	4,482.5	15.9	15.8	165.44	-159.9	11.1	114.6	83.1	31.41	3.647
4,600.0	4,584.2	4,581.8	4,581.8	16.3	16.2	166.75	-159.9	11.1	125.7	93.6	32.12	3.915
4,700.0	4,683.5	4,681.1	4,681.1	16.7	16.6	167.86	-159.9	11.1	136.9	104.1	32.83	4.171
4,800.0	4,783.1	4,780.7	4,780.7	17.0	16.9	168.66	-159.9	11.1	146.0	112.5	33.54	4.354
4,900.0	4,882.9	4,880.5	4,880.5	17.4	17.3	169.12	-159.9	11.1	151.8	117.5	34.25	4.431
5,000.0	4,982.9	4,980.5	4,980.5	17.8	17.6	169.29	-159.9	11.1	154.1	119.1	34.96	4.407

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 602H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,082.9	5,080.5	5,080.5	18.1	18.0	-24.97	-159.9	11.1	154.1	118.5	35.66	4.322	
5,200.0	5,182.9	5,180.5	5,180.5	18.4	18.3	-24.97	-159.9	11.1	154.1	117.8	36.36	4.239	
5,300.0	5,282.9	5,280.5	5,280.5	18.8	18.7	-24.97	-159.9	11.1	154.1	117.1	37.06	4.158	
5,400.0	5,382.9	5,380.5	5,380.5	19.1	19.1	-24.97	-159.9	11.1	154.1	116.4	37.76	4.081	
5,500.0	5,482.9	5,480.5	5,480.5	19.4	19.4	-24.97	-159.9	11.1	154.1	115.7	38.47	4.007	
5,600.0	5,582.9	5,580.5	5,580.5	19.8	19.8	-24.97	-159.9	11.1	154.1	114.9	39.17	3.935	
5,700.0	5,682.9	5,680.5	5,680.5	20.1	20.1	-24.97	-159.9	11.1	154.1	114.2	39.87	3.865	
5,800.0	5,782.9	5,780.5	5,780.5	20.5	20.5	-24.97	-159.9	11.1	154.1	113.5	40.58	3.798	
5,900.0	5,882.9	5,880.5	5,880.5	20.8	20.9	-24.97	-159.9	11.1	154.1	112.8	41.28	3.733	
6,000.0	5,982.9	5,980.5	5,980.5	21.1	21.2	-24.97	-159.9	11.1	154.1	112.1	41.99	3.671	
6,100.0	6,082.9	6,080.5	6,080.5	21.5	21.6	-24.97	-159.9	11.1	154.1	111.4	42.69	3.610	
6,200.0	6,182.9	6,180.5	6,180.5	21.8	21.9	-24.97	-159.9	11.1	154.1	110.7	43.40	3.551	
6,300.0	6,282.9	6,280.5	6,280.5	22.2	22.3	-24.97	-159.9	11.1	154.1	110.0	44.10	3.495	
6,400.0	6,382.9	6,380.5	6,380.5	22.5	22.6	-24.97	-159.9	11.1	154.1	109.3	44.81	3.440	
6,500.0	6,482.9	6,480.5	6,480.5	22.8	23.0	-24.97	-159.9	11.1	154.1	108.6	45.51	3.386	
6,600.0	6,582.9	6,580.5	6,580.5	23.2	23.4	-24.97	-159.9	11.1	154.1	107.9	46.22	3.334	
6,700.0	6,682.9	6,680.5	6,680.5	23.5	23.7	-24.97	-159.9	11.1	154.1	107.2	46.93	3.284	
6,800.0	6,782.9	6,780.5	6,780.5	23.9	24.1	-24.97	-159.9	11.1	154.1	106.5	47.64	3.235	
6,900.0	6,882.9	6,880.5	6,880.5	24.2	24.4	-24.97	-159.9	11.1	154.1	105.8	48.34	3.188	
7,000.0	6,982.9	6,980.5	6,980.5	24.6	24.8	-24.97	-159.9	11.1	154.1	105.1	49.05	3.142	
7,100.0	7,082.9	7,080.5	7,080.5	24.9	25.2	-24.97	-159.9	11.1	154.1	104.4	49.76	3.097	
7,200.0	7,182.9	7,180.5	7,180.5	25.3	25.5	-24.97	-159.9	11.1	154.1	103.6	50.47	3.054	
7,300.0	7,282.9	7,280.5	7,280.5	25.6	25.9	-24.97	-159.9	11.1	154.1	102.9	51.18	3.011	
7,400.0	7,382.9	7,380.5	7,380.5	25.9	26.2	-24.97	-159.9	11.1	154.1	102.2	51.89	2.970	
7,500.0	7,482.9	7,480.5	7,480.5	26.3	26.6	-24.97	-159.9	11.1	154.1	101.5	52.60	2.930	
7,600.0	7,582.9	7,580.5	7,584.9	26.6	26.9	-25.06	-161.1	11.4	152.9	99.6	53.31	2.869	
7,700.0	7,682.9	7,689.8	7,689.7	27.0	27.3	-25.43	-166.0	12.7	148.2	94.3	53.97	2.747	
7,800.0	7,782.9	7,789.6	7,789.3	27.3	27.6	-25.94	-172.1	14.2	142.0	87.4	54.64	2.599	
7,900.0	7,882.9	7,889.4	7,888.9	27.7	27.9	-26.48	-178.3	15.7	135.8	80.5	55.32	2.456	
8,000.0	7,982.9	7,989.2	7,988.5	28.0	28.3	-27.08	-184.4	17.3	129.7	73.7	55.99	2.316	
8,100.0	8,082.9	8,089.0	8,088.1	28.4	28.6	-27.74	-190.5	18.8	123.5	66.8	56.67	2.179	
8,200.0	8,182.9	8,188.8	8,187.7	28.7	28.9	-28.48	-196.7	20.4	117.3	60.0	57.35	2.046	
8,300.0	8,282.9	8,288.6	8,287.3	29.1	29.2	-29.29	-202.8	21.9	111.2	53.2	58.03	1.916	
8,400.0	8,382.9	8,388.4	8,386.9	29.4	29.6	-30.19	-208.9	23.4	105.1	46.4	58.71	1.790	
8,500.0	8,482.9	8,488.2	8,486.5	29.8	29.9	-31.21	-215.1	25.0	99.0	39.6	59.39	1.667	
8,600.0	8,582.9	8,588.0	8,586.1	30.1	30.2	-32.36	-221.2	26.5	93.0	32.9	60.08	1.548	
8,700.0	8,682.9	8,687.8	8,685.7	30.5	30.6	-33.66	-227.3	28.1	87.0	26.2	60.76	1.432 Level 3	
8,800.0	8,782.9	8,787.6	8,785.3	30.8	30.9	-35.16	-233.5	29.6	81.0	19.6	61.45	1.319 Level 3	
8,900.0	8,882.9	8,887.4	8,884.9	31.2	31.2	-36.90	-239.6	31.1	75.2	13.0	62.14	1.210 Level 2	
9,000.0	8,982.9	8,987.2	8,984.5	31.5	31.5	-38.93	-245.7	32.7	69.4	6.5	62.83	1.104 Level 2	
9,100.0	9,082.9	9,087.0	9,084.1	31.9	31.9	-41.32	-251.9	34.2	63.7	0.1	63.52	1.002 Level 2	
9,200.0	9,182.9	9,186.8	9,183.7	32.2	32.2	-44.18	-258.0	35.8	58.1	-6.1	64.21	0.905 Level 1	
9,300.0	9,282.9	9,286.6	9,283.2	32.6	32.6	-44.85	-264.1	37.3	52.2	-12.7	64.92	0.804 Level 1	
9,400.0	9,381.4	9,383.9	9,380.4	32.9	32.9	-68.20	-270.1	38.8	38.6	-27.1	65.68	0.588 Level 1	
9,444.1	9,423.4	9,424.9	9,421.3	33.0	33.0	-91.64	-272.6	39.4	35.1	-31.0	66.03	0.531 Level 1, ES, SF	
9,500.0	9,474.5	9,474.6	9,470.8	33.2	33.2	-123.83	-275.7	40.2	43.6	-22.8	66.34	0.657 Level 1	
9,600.0	9,558.1	9,554.6	9,550.7	33.4	33.5	-152.23	-280.6	41.4	92.6	25.9	66.72	1.388 Level 3	
9,700.0	9,628.4	9,620.4	9,616.4	33.7	33.7	-160.68	-284.7	42.5	164.7	97.6	67.07	2.455	
9,800.0	9,682.6	9,669.2	9,665.0	33.9	33.8	-161.89	-287.7	43.2	250.5	183.2	67.33	3.721	
9,900.0	9,718.1	9,698.8	9,694.6	34.0	33.9	-154.74	-289.5	43.7	345.2	277.8	67.47	5.117	
10,000.0	9,733.4	9,707.9	9,703.7	34.2	34.0	-80.44	-290.0	43.8	444.3	376.8	67.52	6.581	
10,100.0	9,734.0	9,702.3	9,698.1	34.4	34.0	-28.77	-289.7	43.7	544.0	476.5	67.51	8.058	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 602H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program:		0-B001Mb_MWD+HRGM				Rule Assigned:				Offset Well Error:		0.0 usft		
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance		Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
10,200.0	9,734.0	9,696.1	9,692.0		34.7	33.9	-3.55	-289.3	43.6	643.8	576.3	67.50	9.538	
10,300.0	9,734.0	9,690.0	9,685.8		35.0	33.9	-3.19	-288.9	43.5	743.6	676.1	67.49	11.018	
10,400.0	9,734.0	11,181.5	10,529.0		35.3	38.3	180.00	553.2	40.3	797.4	757.1	40.35	19.762	
10,500.0	9,734.0	11,281.5	10,529.0		35.8	38.8	180.00	653.2	39.6	797.4	756.6	40.85	19.519	
10,600.0	9,734.0	11,381.5	10,529.0		36.2	39.2	180.00	753.2	38.9	797.4	756.0	41.41	19.258	
10,700.0	9,734.0	11,481.5	10,529.0		36.8	39.8	180.00	853.2	38.2	797.4	755.4	42.01	18.980	
10,800.0	9,734.0	11,581.5	10,529.0		37.3	40.3	180.00	953.2	37.5	797.4	754.8	42.67	18.689	
10,900.0	9,734.0	11,681.5	10,529.0		37.9	40.9	180.00	1,053.2	36.8	797.4	754.1	43.37	18.386	
11,000.0	9,734.0	11,781.5	10,529.0		38.6	41.6	180.00	1,153.2	36.1	797.4	753.3	44.12	18.075	
11,100.0	9,734.0	11,881.5	10,529.0		39.3	42.3	180.00	1,253.2	35.4	797.4	752.5	44.91	17.757	
11,200.0	9,734.0	11,981.5	10,529.0		40.1	43.0	180.00	1,353.2	34.8	797.4	751.7	45.74	17.435	
11,300.0	9,734.0	12,081.5	10,529.0		40.8	43.8	180.00	1,453.2	34.1	797.4	750.8	46.60	17.111	
11,400.0	9,734.0	12,181.5	10,529.0		41.7	44.6	180.00	1,553.2	33.4	797.4	749.9	47.51	16.785	
11,500.0	9,734.0	12,281.5	10,529.0		42.5	45.4	180.00	1,653.2	32.7	797.4	749.0	48.45	16.460	
11,600.0	9,734.0	12,381.5	10,529.0		43.4	46.3	180.00	1,753.2	32.0	797.4	748.0	49.41	16.137	
11,700.0	9,734.0	12,481.5	10,529.0		44.3	47.1	180.00	1,853.2	31.3	797.4	747.0	50.41	15.817	
11,800.0	9,734.0	12,581.5	10,529.0		45.3	48.1	180.00	1,953.2	30.6	797.4	746.0	51.44	15.501	
11,900.0	9,734.0	12,681.5	10,529.0		46.2	49.0	180.00	2,053.2	29.9	797.4	744.9	52.50	15.190	
12,000.0	9,734.0	12,781.5	10,529.0		47.2	50.0	180.00	2,153.2	29.2	797.4	743.9	53.58	14.884	
12,100.0	9,734.0	12,881.5	10,529.0		48.2	51.0	180.00	2,253.2	28.5	797.4	742.7	54.68	14.583	
12,200.0	9,734.0	12,981.5	10,529.0		49.3	52.0	180.00	2,353.2	27.8	797.4	741.6	55.81	14.289	
12,300.0	9,734.0	13,081.5	10,529.0		50.3	53.0	180.00	2,453.2	27.1	797.4	740.5	56.95	14.001	
12,400.0	9,734.0	13,181.5	10,529.0		51.4	54.1	180.00	2,553.2	26.4	797.4	739.3	58.12	13.720	
12,500.0	9,734.0	13,281.5	10,529.0		52.5	55.1	180.00	2,653.2	25.7	797.4	738.1	59.31	13.446	
12,600.0	9,734.0	13,381.5	10,529.0		53.6	56.2	180.00	2,753.2	25.0	797.4	736.9	60.51	13.179	
12,700.0	9,734.0	13,481.5	10,529.0		54.7	57.3	180.00	2,853.2	24.3	797.4	735.7	61.73	12.918	
12,800.0	9,734.0	13,581.5	10,529.0		55.9	58.4	180.00	2,953.2	23.6	797.4	734.5	62.96	12.665	
12,900.0	9,734.0	13,681.5	10,529.0		57.0	59.6	180.00	3,053.2	23.0	797.4	733.2	64.21	12.419	
13,000.0	9,734.0	13,781.5	10,529.0		58.2	60.7	180.00	3,153.2	22.3	797.4	732.0	65.47	12.179	
13,100.0	9,734.0	13,881.5	10,529.0		59.4	61.9	180.00	3,253.2	21.6	797.4	730.7	66.75	11.946	
13,200.0	9,734.0	13,981.5	10,529.0		60.6	63.0	180.00	3,353.2	20.9	797.4	729.4	68.04	11.720	
13,300.0	9,734.0	14,081.5	10,529.0		61.8	64.2	180.00	3,453.2	20.2	797.4	728.1	69.34	11.501	
13,400.0	9,734.0	14,181.5	10,529.0		63.0	65.4	180.00	3,553.2	19.5	797.4	726.8	70.65	11.287	
13,500.0	9,734.0	14,281.5	10,529.0		64.2	66.6	180.00	3,653.2	18.8	797.4	725.5	71.97	11.080	
13,600.0	9,734.0	14,381.5	10,529.0		65.4	67.8	180.00	3,753.2	18.1	797.4	724.1	73.30	10.879	
13,700.0	9,734.0	14,481.5	10,529.0		66.7	69.0	180.00	3,853.2	17.4	797.4	722.8	74.64	10.684	
13,800.0	9,734.0	14,581.5	10,529.0		67.9	70.3	180.00	3,953.2	16.7	797.4	721.4	75.99	10.494	
13,900.0	9,734.0	14,681.5	10,529.0		69.2	71.5	180.00	4,053.2	16.0	797.4	720.1	77.35	10.310	
14,000.0	9,734.0	14,781.5	10,529.0		70.4	72.7	180.00	4,153.2	15.3	797.4	718.7	78.71	10.131	
14,100.0	9,734.0	14,881.5	10,529.0		71.7	74.0	180.00	4,253.2	14.6	797.4	717.3	80.08	9.957	
14,200.0	9,734.0	14,981.5	10,529.0		73.0	75.3	180.00	4,353.2	13.9	797.4	716.0	81.46	9.789	
14,300.0	9,734.0	15,081.5	10,529.0		74.3	76.5	180.00	4,453.1	13.2	797.4	714.6	82.85	9.625	
14,400.0	9,734.0	15,181.5	10,529.0		75.6	77.8	180.00	4,553.1	12.5	797.4	713.2	84.24	9.466	
14,500.0	9,734.0	15,281.5	10,529.0		76.9	79.1	180.00	4,653.1	11.8	797.4	711.8	85.64	9.311	
14,600.0	9,734.0	15,381.5	10,529.0		78.2	80.4	180.00	4,753.1	11.2	797.4	710.4	87.05	9.161	
14,700.0	9,734.0	15,481.5	10,529.0		79.5	81.6	180.00	4,853.1	10.5	797.4	709.0	88.46	9.015	
14,800.0	9,734.0	15,581.5	10,529.0		80.8	82.9	180.00	4,953.1	9.8	797.4	707.5	89.87	8.873	
14,900.0	9,734.0	15,681.5	10,529.0		82.1	84.2	180.00	5,053.1	9.1	797.4	706.1	91.29	8.735	
15,000.0	9,734.0	15,781.5	10,529.0		83.4	85.5	180.00	5,153.1	8.4	797.4	704.7	92.72	8.600	
15,100.0	9,734.0	15,881.5	10,529.0		84.7	86.9	180.00	5,253.1	7.7	797.4	703.3	94.15	8.470	
15,200.0	9,734.0	15,981.5	10,529.0		86.1	88.2	180.00	5,353.1	7.0	797.4	701.8	95.58	8.343	
15,300.0	9,734.0	16,081.5	10,529.0		87.4	89.5	180.00	5,453.1	6.3	797.4	700.4	97.02	8.219	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 602H - OH - Plan 0.1													Offset Site Error: 0.0 usft	
Survey Program: Reference		0-B001Mb_MWD+HRGM Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
15,400.0	9,734.0	16,181.5	10,529.0	88.7	90.8	180.00	5,553.1	5.6	797.4	699.0	98.46	8.099		
15,500.0	9,734.0	16,281.5	10,529.0	90.1	92.1	180.00	5,653.1	4.9	797.4	697.5	99.91	7.981		
15,600.0	9,734.0	16,381.5	10,529.0	91.4	93.5	180.00	5,753.1	4.2	797.4	696.1	101.36	7.867		
15,700.0	9,734.0	16,481.5	10,529.0	92.8	94.8	180.00	5,853.1	3.5	797.4	694.6	102.81	7.756		
15,800.0	9,734.0	16,581.5	10,529.0	94.1	96.1	180.00	5,953.1	2.8	797.4	693.1	104.27	7.648		
15,900.0	9,734.0	16,681.5	10,529.0	95.5	97.5	180.00	6,053.1	2.1	797.4	691.7	105.73	7.542		
16,000.0	9,734.0	16,781.5	10,529.0	96.8	98.8	180.00	6,153.1	1.4	797.4	690.2	107.19	7.439		
16,100.0	9,734.0	16,881.5	10,529.0	98.2	100.1	180.00	6,253.1	0.7	797.4	688.8	108.66	7.339		
16,200.0	9,734.0	16,981.5	10,529.0	99.5	101.5	180.00	6,353.1	0.0	797.4	687.3	110.13	7.241		
16,300.0	9,734.0	17,081.5	10,529.0	100.9	102.8	180.00	6,453.1	-0.6	797.4	685.8	111.60	7.145		
16,400.0	9,734.0	17,181.5	10,529.0	102.3	104.2	180.00	6,553.1	-1.3	797.4	684.3	113.07	7.052		
16,500.0	9,734.0	17,281.5	10,529.0	103.6	105.6	180.00	6,653.1	-2.0	797.4	682.9	114.55	6.961		
16,600.0	9,734.0	17,381.5	10,529.0	105.0	106.9	180.00	6,753.1	-2.7	797.4	681.4	116.03	6.872		
16,700.0	9,734.0	17,481.5	10,529.0	106.4	108.3	180.00	6,853.1	-3.4	797.4	679.9	117.51	6.786		
16,800.0	9,734.0	17,581.5	10,529.0	107.7	109.6	180.00	6,953.1	-4.1	797.4	678.4	119.00	6.701		
16,900.0	9,734.0	17,681.5	10,529.0	109.1	111.0	180.00	7,053.1	-4.8	797.4	676.9	120.48	6.619		
17,000.0	9,734.0	17,781.5	10,529.0	110.5	112.4	180.00	7,153.1	-5.5	797.4	675.4	121.97	6.538		
17,100.0	9,734.0	17,881.5	10,529.0	111.9	113.7	180.00	7,253.1	-6.2	797.4	674.0	123.46	6.459		
17,200.0	9,734.0	17,981.5	10,529.0	113.2	115.1	180.00	7,353.1	-6.9	797.4	672.5	124.95	6.382		
17,300.0	9,734.0	18,081.5	10,529.0	114.6	116.5	180.00	7,453.1	-7.6	797.4	671.0	126.45	6.306		
17,400.0	9,734.0	18,181.5	10,529.0	116.0	117.9	180.00	7,553.1	-8.3	797.4	669.5	127.94	6.233		
17,500.0	9,734.0	18,281.5	10,529.0	117.4	119.2	180.00	7,653.1	-9.0	797.4	668.0	129.44	6.160		
17,600.0	9,734.0	18,381.5	10,529.0	118.8	120.6	180.00	7,753.1	-9.7	797.4	666.5	130.94	6.090		
17,700.0	9,734.0	18,481.5	10,529.0	120.2	122.0	180.00	7,853.1	-10.4	797.4	665.0	132.44	6.021		
17,800.0	9,734.0	18,581.5	10,529.0	121.6	123.4	180.00	7,953.1	-11.1	797.4	663.5	133.94	5.953		
17,900.0	9,734.0	18,681.5	10,529.0	122.9	124.7	180.00	8,053.1	-11.8	797.4	662.0	135.45	5.887		
18,000.0	9,734.0	18,781.5	10,529.0	124.3	126.1	180.00	8,153.1	-12.4	797.4	660.5	136.95	5.823		
18,100.0	9,734.0	18,881.5	10,529.0	125.7	127.5	180.00	8,253.1	-13.1	797.4	658.9	138.46	5.759		
18,200.0	9,734.0	18,981.5	10,529.0	127.1	128.9	180.00	8,353.1	-13.8	797.4	657.4	139.97	5.697		
18,300.0	9,734.0	19,081.5	10,529.0	128.5	130.3	180.00	8,453.1	-14.5	797.4	655.9	141.48	5.636		
18,400.0	9,734.0	19,181.5	10,529.0	129.9	131.7	180.00	8,553.0	-15.2	797.4	654.4	142.99	5.577		
18,500.0	9,734.0	19,281.5	10,529.0	131.3	133.1	180.00	8,653.0	-15.9	797.4	652.9	144.50	5.518		
18,600.0	9,734.0	19,381.5	10,529.0	132.7	134.5	180.00	8,753.0	-16.6	797.4	651.4	146.01	5.461		
18,700.0	9,734.0	19,481.5	10,529.0	134.1	135.9	180.00	8,853.0	-17.3	797.4	649.9	147.53	5.405		
18,800.0	9,734.0	19,581.5	10,529.0	135.5	137.2	180.00	8,953.0	-18.0	797.4	648.4	149.04	5.350		
18,900.0	9,734.0	19,681.5	10,529.0	136.9	138.6	180.00	9,053.0	-18.7	797.4	646.8	150.56	5.296		
19,000.0	9,734.0	19,781.5	10,529.0	138.3	140.0	180.00	9,153.0	-19.4	797.4	645.3	152.08	5.243		
19,100.0	9,734.0	19,881.5	10,529.0	139.7	141.4	180.00	9,253.0	-20.1	797.4	643.8	153.60	5.192		
19,200.0	9,734.0	19,981.5	10,529.0	141.1	142.8	180.00	9,353.0	-20.8	797.4	642.3	155.11	5.141		
19,300.0	9,734.0	20,081.5	10,529.0	142.5	144.2	180.00	9,453.0	-21.5	797.4	640.8	156.64	5.091		
19,400.0	9,734.0	20,181.5	10,529.0	143.9	145.6	180.00	9,553.0	-22.2	797.4	639.2	158.16	5.042		
19,500.0	9,734.0	20,281.5	10,529.0	145.3	147.0	180.00	9,653.0	-22.9	797.4	637.7	159.68	4.994		
19,600.0	9,734.0	20,381.5	10,529.0	146.7	148.4	180.00	9,753.0	-23.6	797.4	636.2	161.20	4.947		
19,700.0	9,734.0	20,481.5	10,529.0	148.2	149.8	180.00	9,853.0	-24.2	797.4	634.7	162.73	4.900		
19,800.0	9,734.0	20,581.5	10,529.0	149.6	151.2	180.00	9,953.0	-24.9	797.4	633.1	164.25	4.855		
19,900.0	9,734.0	20,681.5	10,529.0	151.0	152.6	180.00	10,053.0	-25.6	797.4	631.6	165.78	4.810		
19,968.0	9,734.0	20,749.4	10,529.0	151.8	153.6	180.00	10,121.0	-26.1	797.4	630.8	166.56	4.788		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 603H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	0.0	0.0	168.92	-159.7	31.3	162.8				
100.0	100.0	97.5	97.5	0.1	0.1	168.92	-159.7	31.3	162.8	162.5	0.26	625.619	
200.0	200.0	197.5	197.5	0.5	0.5	168.92	-159.7	31.3	162.8	161.8	0.97	167.558	
300.0	300.0	297.5	297.5	0.8	0.8	168.92	-159.7	31.3	162.8	161.1	1.69	96.408	
400.0	400.0	397.5	397.5	1.2	1.2	168.92	-159.7	31.3	162.8	160.4	2.41	67.673	
500.0	500.0	497.5	497.5	1.6	1.6	168.92	-159.7	31.3	162.8	159.7	3.12	52.133	
600.0	600.0	597.5	597.5	1.9	1.9	168.92	-159.7	31.3	162.8	158.9	3.84	42.398	
700.0	700.0	697.5	697.5	2.3	2.3	168.92	-159.7	31.3	162.8	158.2	4.56	35.726	
800.0	800.0	797.5	797.5	2.6	2.6	168.92	-159.7	31.3	162.8	157.5	5.27	30.869	
900.0	900.0	897.5	897.5	3.0	3.0	168.92	-159.7	31.3	162.8	156.8	5.99	27.174	
1,000.0	1,000.0	997.5	997.5	3.4	3.3	168.92	-159.7	31.3	162.8	156.1	6.71	24.270	
1,100.0	1,100.0	1,097.5	1,097.5	3.7	3.7	168.92	-159.7	31.3	162.8	155.4	7.42	21.926	
1,200.0	1,200.0	1,197.5	1,197.5	4.1	4.1	168.92	-159.7	31.3	162.8	154.6	8.14	19.995	
1,300.0	1,300.0	1,297.5	1,297.5	4.4	4.4	168.92	-159.7	31.3	162.8	153.9	8.86	18.376	
1,400.0	1,400.0	1,397.5	1,397.5	4.8	4.8	168.92	-159.7	31.3	162.8	153.2	9.57	17.000	
1,500.0	1,500.0	1,497.5	1,497.5	5.2	5.1	168.92	-159.7	31.3	162.8	152.5	10.29	15.816	
1,600.0	1,600.0	1,597.5	1,597.5	5.5	5.5	168.92	-159.7	31.3	162.8	151.8	11.01	14.786	
1,700.0	1,700.0	1,697.5	1,697.5	5.9	5.9	168.92	-159.7	31.3	162.8	151.1	11.73	13.882	
1,800.0	1,800.0	1,797.5	1,797.5	6.2	6.2	168.92	-159.7	31.3	162.8	150.3	12.44	13.082	
1,900.0	1,900.0	1,897.5	1,897.5	6.6	6.6	168.92	-159.7	31.3	162.8	149.6	13.16	12.369	
2,000.0	2,000.0	1,997.5	1,997.5	6.9	6.9	168.92	-159.7	31.3	162.8	148.9	13.88	11.730	
2,100.0	2,100.0	2,095.7	2,095.7	7.3	7.3	2.69	-160.0	32.9	161.6	147.0	14.56	11.098	
2,200.0	2,199.8	2,193.6	2,193.5	7.6	7.6	1.09	-160.7	37.8	158.1	142.9	15.22	10.391	
2,300.0	2,299.5	2,291.1	2,290.6	7.9	7.9	-1.74	-161.8	45.9	152.6	136.8	15.87	9.618	
2,400.0	2,398.8	2,388.8	2,387.7	8.3	8.3	-5.95	-163.4	57.2	146.5	129.9	16.53	8.861	
2,500.0	2,498.1	2,487.9	2,486.0	8.6	8.6	-10.82	-165.1	69.4	141.4	124.2	17.20	8.223	
2,600.0	2,597.5	2,587.1	2,584.4	8.9	9.0	-16.00	-166.8	81.5	137.5	119.6	17.87	7.692	
2,700.0	2,696.8	2,686.2	2,682.7	9.3	9.3	-21.44	-168.6	93.7	134.7	116.2	18.55	7.264	
2,800.0	2,796.1	2,785.3	2,781.1	9.6	9.7	-27.04	-170.3	105.8	133.3	114.1	19.23	6.932	
2,860.4	2,856.1	2,845.1	2,840.4	9.9	9.9	-30.47	-171.3	113.2	133.0	113.4	19.64	6.774 CC	
2,900.0	2,895.5	2,884.4	2,879.4	10.0	10.1	-32.71	-172.0	118.0	133.2	113.2	19.91	6.687 ES	
3,000.0	2,994.8	2,983.5	2,977.7	10.4	10.4	-38.34	-173.7	130.2	134.3	113.7	20.60	6.521	
3,100.0	3,094.2	3,082.6	3,076.1	10.7	10.8	-43.82	-175.4	142.3	136.8	115.5	21.29	6.425	
3,200.0	3,193.5	3,181.7	3,174.4	11.1	11.2	-49.06	-177.1	154.5	140.5	118.5	21.99	6.388	
3,300.0	3,292.8	3,280.8	3,272.8	11.4	11.5	-54.00	-178.9	166.6	145.3	122.6	22.70	6.402	
3,400.0	3,392.2	3,379.9	3,371.1	11.8	11.9	-58.60	-180.6	178.8	151.2	127.8	23.41	6.456	
3,500.0	3,491.5	3,479.1	3,469.5	12.2	12.3	-62.83	-182.3	191.0	157.9	133.8	24.13	6.544	
3,600.0	3,590.8	3,578.2	3,567.8	12.5	12.7	-66.70	-184.0	203.1	165.5	140.6	24.86	6.657	
3,700.0	3,690.2	3,677.3	3,666.2	12.9	13.0	-70.22	-185.7	215.3	173.7	148.1	25.59	6.789	
3,800.0	3,789.5	3,776.4	3,764.5	13.3	13.4	-73.42	-187.5	227.4	182.5	156.2	26.32	6.935	
3,900.0	3,888.8	3,875.5	3,862.9	13.7	13.8	-76.31	-189.2	239.6	191.9	164.8	27.06	7.092	
4,000.0	3,988.2	3,974.6	3,961.2	14.0	14.2	-78.93	-190.9	251.8	201.7	173.9	27.80	7.256	
4,100.0	4,087.5	4,073.7	4,059.6	14.4	14.5	-81.31	-192.6	263.9	211.9	183.3	28.54	7.424	
4,200.0	4,186.9	4,172.8	4,157.9	14.8	14.9	-83.47	-194.3	276.1	222.4	193.1	29.28	7.594	
4,300.0	4,286.2	4,272.0	4,256.3	15.2	15.3	-85.43	-196.0	288.2	233.2	203.1	30.03	7.765	
4,400.0	4,385.5	4,371.1	4,354.6	15.5	15.7	-87.22	-197.8	300.4	244.2	213.4	30.78	7.935	
4,500.0	4,484.9	4,470.2	4,453.0	15.9	16.1	-88.85	-199.5	312.6	255.4	223.9	31.52	8.103	
4,600.0	4,584.2	4,569.3	4,551.3	16.3	16.4	-90.34	-201.2	324.7	266.9	234.6	32.27	8.269	
4,700.0	4,683.5	4,668.4	4,649.7	16.7	16.8	-91.74	-202.9	336.9	278.5	245.5	33.02	8.433	
4,800.0	4,783.1	4,767.6	4,748.1	17.0	17.2	-92.80	-204.6	349.0	290.1	256.4	33.77	8.592	
4,900.0	4,882.9	4,867.0	4,846.7	17.4	17.6	-93.12	-206.4	361.2	301.6	267.1	34.49	8.745	
5,000.0	4,982.9	4,966.3	4,945.2	17.8	18.0	-92.80	-208.1	373.4	313.0	277.8	35.21	8.890	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 603H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,082.9	5,065.5	5,043.7	18.1	18.4	73.81	-209.8	385.6	324.2	288.4	35.90	9.032	
5,200.0	5,182.9	5,164.7	5,142.2	18.4	18.8	74.68	-211.5	397.8	335.6	299.0	36.59	9.172	
5,300.0	5,282.9	5,264.0	5,240.6	18.8	19.1	75.49	-213.2	409.9	347.0	309.7	37.28	9.308	
5,400.0	5,382.9	5,363.2	5,339.1	19.1	19.5	76.25	-215.0	422.1	358.5	320.5	37.98	9.440	
5,500.0	5,482.9	5,462.4	5,437.6	19.4	19.9	76.96	-216.7	434.3	370.1	331.4	38.67	9.570	
5,600.0	5,582.9	5,561.6	5,536.0	19.8	20.3	77.63	-218.4	446.5	381.7	342.3	39.37	9.695	
5,700.0	5,682.9	5,660.9	5,634.5	20.1	20.7	78.26	-220.1	458.6	393.3	353.2	40.06	9.817	
5,800.0	5,782.9	5,760.1	5,733.0	20.5	21.1	78.85	-221.8	470.8	405.0	364.2	40.76	9.936	
5,900.0	5,882.9	5,859.3	5,831.4	20.8	21.5	79.41	-223.6	483.0	416.7	375.3	41.46	10.052	
6,000.0	5,982.9	5,958.6	5,929.9	21.1	21.8	79.94	-225.3	495.2	428.5	386.3	42.16	10.165	
6,100.0	6,082.9	6,057.8	6,028.4	21.5	22.2	80.44	-227.0	507.3	440.3	397.4	42.86	10.274	
6,200.0	6,182.9	6,157.0	6,126.8	21.8	22.6	80.92	-228.7	519.5	452.1	408.6	43.56	10.381	
6,300.0	6,282.9	6,256.3	6,225.3	22.2	23.0	81.37	-230.4	531.7	464.0	419.7	44.26	10.484	
6,400.0	6,382.9	6,355.5	6,323.7	22.5	23.4	81.79	-232.2	543.9	475.9	430.9	44.96	10.585	
6,500.0	6,482.9	6,454.7	6,422.2	22.8	23.8	82.20	-233.9	556.0	487.8	442.1	45.66	10.683	
6,600.0	6,582.9	6,553.9	6,520.7	23.2	24.2	82.59	-235.6	568.2	499.7	453.4	46.36	10.779	
6,700.0	6,682.9	6,653.2	6,619.1	23.5	24.6	82.96	-237.3	580.4	511.7	464.6	47.07	10.872	
6,800.0	6,782.9	6,752.4	6,717.6	23.9	25.0	83.31	-239.0	592.6	523.7	475.9	47.77	10.962	
6,900.0	6,882.9	6,851.6	6,816.1	24.2	25.3	83.65	-240.8	604.7	535.7	487.2	48.48	11.050	
7,000.0	6,982.9	6,950.9	6,914.5	24.6	25.7	83.97	-242.5	616.9	547.7	498.5	49.18	11.136	
7,100.0	7,082.9	7,050.1	7,013.0	24.9	26.1	84.28	-244.2	629.1	559.7	509.8	49.89	11.220	
7,200.0	7,182.9	7,149.3	7,111.5	25.3	26.5	84.57	-245.9	641.3	571.8	521.2	50.59	11.301	
7,300.0	7,282.9	7,248.5	7,209.9	25.6	26.9	84.86	-247.6	653.4	583.8	532.5	51.30	11.381	
7,400.0	7,382.9	7,347.8	7,308.4	25.9	27.3	85.13	-249.4	665.6	595.9	543.9	52.01	11.458	
7,500.0	7,482.9	7,447.0	7,406.9	26.3	27.7	85.39	-251.1	677.8	608.0	555.3	52.72	11.534	
7,600.0	7,582.9	7,546.2	7,505.3	26.6	28.1	85.64	-252.8	690.0	620.1	566.7	53.42	11.607	
7,700.0	7,682.9	7,645.5	7,603.8	27.0	28.5	85.88	-254.5	702.1	632.2	578.1	54.13	11.679	
7,800.0	7,782.9	7,744.7	7,702.2	27.3	28.9	86.11	-256.2	714.3	644.3	589.5	54.84	11.749	
7,900.0	7,882.9	7,843.9	7,800.7	27.7	29.2	86.34	-258.0	726.5	656.5	600.9	55.55	11.817	
8,000.0	7,982.9	7,943.2	7,899.2	28.0	29.6	86.55	-259.7	738.7	668.6	612.3	56.26	11.884	
8,100.0	8,082.9	8,042.4	7,997.6	28.4	30.0	86.76	-261.4	750.8	680.8	623.8	56.97	11.949	
8,200.0	8,182.9	8,141.6	8,096.1	28.7	30.4	86.96	-263.1	763.0	692.9	635.2	57.68	12.013	
8,300.0	8,282.9	8,240.8	8,194.6	29.1	30.8	87.15	-264.8	775.2	705.1	646.7	58.39	12.075	
8,400.0	8,382.9	8,340.1	8,293.0	29.4	31.2	87.34	-266.6	787.4	717.3	658.2	59.10	12.136	
8,500.0	8,482.9	8,439.3	8,391.5	29.8	31.6	87.52	-268.3	799.5	729.4	669.6	59.82	12.195	
8,600.0	8,582.9	8,538.5	8,490.0	30.1	32.0	87.70	-270.0	811.7	741.6	681.1	60.53	12.253	
8,700.0	8,682.9	8,637.8	8,588.4	30.5	32.4	87.86	-271.7	823.9	753.8	692.6	61.24	12.310	
8,800.0	8,782.9	8,737.0	8,686.9	30.8	32.8	88.03	-273.4	836.1	766.0	704.1	61.95	12.365	
8,900.0	8,882.9	8,836.2	8,785.4	31.2	33.1	88.19	-275.2	848.2	778.2	715.6	62.66	12.419	
9,000.0	8,982.9	8,935.4	8,883.8	31.5	33.5	88.34	-276.9	860.4	790.5	727.1	63.38	12.472	
9,100.0	9,082.9	9,034.7	8,982.3	31.9	33.9	88.49	-278.6	872.6	802.7	738.6	64.09	12.524	
9,200.0	9,182.9	9,133.9	9,080.8	32.2	34.3	88.63	-280.3	884.8	814.9	750.1	64.80	12.575	
9,300.0	9,282.9	9,233.1	9,179.2	32.6	34.7	91.93	-282.0	896.9	827.2	761.6	65.52	12.625	
9,400.0	9,381.4	9,330.5	9,275.8	32.9	35.1	91.57	-283.7	908.9	840.0	773.9	66.18	12.693	
9,500.0	9,474.5	9,422.0	9,366.6	33.2	35.5	92.17	-285.3	920.1	854.5	787.7	66.78	12.796	
9,600.0	9,558.1	9,503.5	9,447.5	33.4	35.8	93.05	-286.7	930.1	872.3	805.0	67.30	12.962	
9,700.0	9,628.4	9,571.6	9,515.1	33.7	36.0	93.39	-287.9	938.5	895.7	827.9	67.74	13.221	
9,800.0	9,682.6	9,623.2	9,566.3	33.9	36.3	92.36	-288.8	944.8	926.4	858.3	68.12	13.599	
9,900.0	9,718.1	9,658.1	9,600.9	34.0	36.4	89.42	-289.4	949.1	965.4	896.9	68.45	14.104	
10,000.0	9,733.4	9,677.4	9,620.0	34.2	36.5	84.37	-289.7	951.3	1,011.8	943.1	68.73	14.722	
10,100.0	9,734.0	9,674.9	9,617.6	34.4	36.5	82.70	-289.7	951.0	1,063.8	994.8	68.91	15.437	
10,200.0	9,734.0	9,672.1	9,614.8	34.7	36.4	82.65	-289.6	950.7	1,119.5	1,050.4	69.11	16.198	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 603H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	9,734.0	9,669.5	9,612.2	35.0	36.4	82.49	-289.6	950.4	1,180.3	1,111.0	69.34	17.024	
10,400.0	9,734.0	11,234.2	10,529.0	35.3	40.1	130.80	559.7	964.3	1,220.6	1,160.4	60.20	20.276	
10,500.0	9,734.0	11,334.2	10,529.0	35.8	40.5	130.80	659.7	963.6	1,220.6	1,159.8	60.85	20.060	
10,600.0	9,734.0	11,434.2	10,529.0	36.2	40.9	130.80	759.7	962.9	1,220.6	1,159.1	61.58	19.821	
10,700.0	9,734.0	11,534.2	10,529.0	36.8	41.4	130.80	859.7	962.2	1,220.6	1,158.2	62.40	19.560	
10,800.0	9,734.0	11,634.2	10,529.0	37.3	42.0	130.80	959.6	961.5	1,220.6	1,157.3	63.31	19.282	
10,900.0	9,734.0	11,734.2	10,529.0	37.9	42.6	130.80	1,059.6	960.8	1,220.6	1,156.3	64.29	18.988	
11,000.0	9,734.0	11,834.2	10,529.0	38.6	43.2	130.80	1,159.6	960.1	1,220.6	1,155.3	65.34	18.681	
11,100.0	9,734.0	11,934.2	10,529.0	39.3	43.9	130.80	1,259.6	959.4	1,220.6	1,154.2	66.47	18.364	
11,200.0	9,734.0	12,034.2	10,529.0	40.1	44.6	130.80	1,359.6	958.7	1,220.6	1,153.0	67.66	18.040	
11,300.0	9,734.0	12,134.2	10,529.0	40.8	45.3	130.80	1,459.6	958.0	1,220.6	1,151.7	68.92	17.711	
11,400.0	9,734.0	12,234.2	10,529.0	41.7	46.1	130.80	1,559.6	957.3	1,220.6	1,150.4	70.24	17.379	
11,500.0	9,734.0	12,334.2	10,529.0	42.5	46.9	130.80	1,659.6	956.6	1,220.6	1,149.0	71.61	17.045	
11,600.0	9,734.0	12,434.2	10,529.0	43.4	47.7	130.80	1,759.6	956.0	1,220.6	1,147.6	73.04	16.711	
11,700.0	9,734.0	12,534.2	10,529.0	44.3	48.6	130.80	1,859.6	955.3	1,220.6	1,146.1	74.52	16.379	
11,800.0	9,734.0	12,634.2	10,529.0	45.3	49.5	130.80	1,959.6	954.6	1,220.6	1,144.6	76.05	16.050	
11,900.0	9,734.0	12,734.2	10,529.0	46.2	50.4	130.80	2,059.6	953.9	1,220.6	1,143.0	77.63	15.724	
12,000.0	9,734.0	12,834.2	10,529.0	47.2	51.4	130.80	2,159.6	953.2	1,220.6	1,141.4	79.24	15.403	
12,100.0	9,734.0	12,934.2	10,529.0	48.2	52.3	130.80	2,259.6	952.5	1,220.6	1,139.7	80.90	15.088	
12,200.0	9,734.0	13,034.2	10,529.0	49.3	53.3	130.80	2,359.6	951.8	1,220.6	1,138.0	82.59	14.778	
12,300.0	9,734.0	13,134.2	10,529.0	50.3	54.3	130.80	2,459.6	951.1	1,220.6	1,136.3	84.32	14.475	
12,400.0	9,734.0	13,234.2	10,529.0	51.4	55.4	130.80	2,559.6	950.4	1,220.6	1,134.5	86.09	14.179	
12,500.0	9,734.0	13,334.2	10,529.0	52.5	56.4	130.80	2,659.6	949.7	1,220.6	1,132.7	87.88	13.890	
12,600.0	9,734.0	13,434.2	10,529.0	53.6	57.5	130.80	2,759.6	949.0	1,220.6	1,130.9	89.70	13.607	
12,700.0	9,734.0	13,534.2	10,529.0	54.7	58.6	130.80	2,859.6	948.3	1,220.6	1,129.1	91.55	13.332	
12,800.0	9,734.0	13,634.2	10,529.0	55.9	59.7	130.80	2,959.6	947.6	1,220.6	1,127.2	93.43	13.064	
12,900.0	9,734.0	13,734.2	10,529.0	57.0	60.8	130.80	3,059.6	946.9	1,220.6	1,125.3	95.33	12.804	
13,000.0	9,734.0	13,834.2	10,529.0	58.2	61.9	130.80	3,159.6	946.2	1,220.6	1,123.4	97.26	12.551	
13,100.0	9,734.0	13,934.2	10,529.0	59.4	63.0	130.80	3,259.6	945.5	1,220.6	1,121.4	99.20	12.304	
13,200.0	9,734.0	14,034.2	10,529.0	60.6	64.2	130.80	3,359.6	944.8	1,220.6	1,119.4	101.17	12.065	
13,300.0	9,734.0	14,134.2	10,529.0	61.8	65.3	130.80	3,459.6	944.2	1,220.6	1,117.5	103.15	11.833	
13,400.0	9,734.0	14,234.2	10,529.0	63.0	66.5	130.80	3,559.6	943.5	1,220.6	1,115.5	105.16	11.608	
13,500.0	9,734.0	14,334.2	10,529.0	64.2	67.7	130.80	3,659.6	942.8	1,220.6	1,113.4	107.18	11.389	
13,600.0	9,734.0	14,434.2	10,529.0	65.4	68.9	130.80	3,759.6	942.1	1,220.6	1,111.4	109.21	11.177	
13,700.0	9,734.0	14,534.2	10,529.0	66.7	70.1	130.80	3,859.6	941.4	1,220.6	1,109.3	111.26	10.970	
13,800.0	9,734.0	14,634.2	10,529.0	67.9	71.3	130.80	3,959.6	940.7	1,220.6	1,107.3	113.33	10.770	
13,900.0	9,734.0	14,734.2	10,529.0	69.2	72.5	130.80	4,059.6	940.0	1,220.6	1,105.2	115.41	10.576	
14,000.0	9,734.0	14,834.2	10,529.0	70.4	73.8	130.80	4,159.6	939.3	1,220.6	1,103.1	117.50	10.388	
14,100.0	9,734.0	14,934.2	10,529.0	71.7	75.0	130.80	4,259.6	938.6	1,220.6	1,101.0	119.61	10.205	
14,200.0	9,734.0	15,034.2	10,529.0	73.0	76.2	130.80	4,359.6	937.9	1,220.6	1,098.9	121.72	10.028	
14,300.0	9,734.0	15,134.2	10,529.0	74.3	77.5	130.80	4,459.6	937.2	1,220.6	1,096.8	123.85	9.855	
14,400.0	9,734.0	15,234.2	10,529.0	75.6	78.7	130.80	4,559.6	936.5	1,220.6	1,094.6	125.99	9.688	
14,500.0	9,734.0	15,334.2	10,529.0	76.9	80.0	130.80	4,659.6	935.8	1,220.6	1,092.5	128.14	9.526	
14,600.0	9,734.0	15,434.2	10,529.0	78.2	81.3	130.80	4,759.6	935.1	1,220.6	1,090.3	130.30	9.368	
14,700.0	9,734.0	15,534.2	10,529.0	79.5	82.6	130.80	4,859.6	934.4	1,220.6	1,088.1	132.46	9.215	
14,800.0	9,734.0	15,634.2	10,529.0	80.8	83.8	130.80	4,959.6	933.7	1,220.6	1,086.0	134.64	9.066	
14,900.0	9,734.0	15,734.2	10,529.0	82.1	85.1	130.80	5,059.5	933.0	1,220.6	1,083.8	136.82	8.921	
15,000.0	9,734.0	15,834.2	10,529.0	83.4	86.4	130.80	5,159.5	932.4	1,220.6	1,081.6	139.01	8.781	
15,100.0	9,734.0	15,934.2	10,529.0	84.7	87.7	130.80	5,259.5	931.7	1,220.6	1,079.4	141.21	8.644	
15,200.0	9,734.0	16,034.2	10,529.0	86.1	89.0	130.80	5,359.5	931.0	1,220.6	1,077.2	143.42	8.511	
15,300.0	9,734.0	16,134.2	10,529.0	87.4	90.3	130.80	5,459.5	930.3	1,220.6	1,075.0	145.63	8.382	
15,400.0	9,734.0	16,234.2	10,529.0	88.7	91.6	130.80	5,559.5	929.6	1,220.6	1,072.8	147.85	8.256	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 603H - OH - Plan 0.1												Offset Site Error: 0.0 usft			
Survey Program: 0-B001Mb_MWD+HRGM				Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
15,500.0	9,734.0	16,334.2	10,529.0	90.1	92.9	130.80	5,659.5	928.9	1,220.6	1,070.5	150.07	8.133			
15,600.0	9,734.0	16,434.2	10,529.0	91.4	94.3	130.80	5,759.5	928.2	1,220.6	1,068.3	152.30	8.014			
15,700.0	9,734.0	16,534.2	10,529.0	92.8	95.6	130.80	5,859.5	927.5	1,220.6	1,066.1	154.54	7.898			
15,800.0	9,734.0	16,634.2	10,529.0	94.1	96.9	130.80	5,959.5	926.8	1,220.6	1,063.8	156.78	7.785			
15,900.0	9,734.0	16,734.2	10,529.0	95.5	98.2	130.80	6,059.5	926.1	1,220.6	1,061.6	159.03	7.675			
16,000.0	9,734.0	16,834.2	10,529.0	96.8	99.6	130.80	6,159.5	925.4	1,220.6	1,059.3	161.28	7.568			
16,100.0	9,734.0	16,934.2	10,529.0	98.2	100.9	130.80	6,259.5	924.7	1,220.6	1,057.1	163.54	7.464			
16,200.0	9,734.0	17,034.2	10,529.0	99.5	102.2	130.80	6,359.5	924.0	1,220.6	1,054.8	165.80	7.362			
16,300.0	9,734.0	17,134.2	10,529.0	100.9	103.6	130.80	6,459.5	923.3	1,220.6	1,052.5	168.06	7.263			
16,400.0	9,734.0	17,234.2	10,529.0	102.3	104.9	130.80	6,559.5	922.6	1,220.6	1,050.3	170.33	7.166			
16,500.0	9,734.0	17,334.2	10,529.0	103.6	106.3	130.80	6,659.5	921.9	1,220.6	1,048.0	172.61	7.071			
16,600.0	9,734.0	17,434.2	10,529.0	105.0	107.6	130.80	6,759.5	921.2	1,220.6	1,045.7	174.89	6.979			
16,700.0	9,734.0	17,534.2	10,529.0	106.4	109.0	130.80	6,859.5	920.5	1,220.6	1,043.4	177.17	6.889			
16,800.0	9,734.0	17,634.2	10,529.0	107.7	110.3	130.80	6,959.5	919.9	1,220.6	1,041.1	179.45	6.802			
16,900.0	9,734.0	17,734.2	10,529.0	109.1	111.7	130.80	7,059.5	919.2	1,220.6	1,038.8	181.74	6.716			
17,000.0	9,734.0	17,834.2	10,529.0	110.5	113.0	130.80	7,159.5	918.5	1,220.6	1,036.6	184.03	6.632			
17,100.0	9,734.0	17,934.2	10,529.0	111.9	114.4	130.80	7,259.5	917.8	1,220.6	1,034.3	186.33	6.551			
17,200.0	9,734.0	18,034.2	10,529.0	113.2	115.8	130.80	7,359.5	917.1	1,220.6	1,032.0	188.63	6.471			
17,300.0	9,734.0	18,134.2	10,529.0	114.6	117.1	130.80	7,459.5	916.4	1,220.6	1,029.7	190.93	6.393			
17,400.0	9,734.0	18,234.2	10,529.0	116.0	118.5	130.80	7,559.5	915.7	1,220.6	1,027.4	193.23	6.317			
17,500.0	9,734.0	18,334.2	10,529.0	117.4	119.9	130.80	7,659.5	915.0	1,220.6	1,025.0	195.54	6.242			
17,600.0	9,734.0	18,434.2	10,529.0	118.8	121.2	130.80	7,759.5	914.3	1,220.6	1,022.7	197.85	6.169			
17,700.0	9,734.0	18,534.2	10,529.0	120.2	122.6	130.80	7,859.5	913.6	1,220.6	1,020.4	200.16	6.098			
17,800.0	9,734.0	18,634.2	10,529.0	121.6	124.0	130.80	7,959.5	912.9	1,220.6	1,018.1	202.47	6.028			
17,900.0	9,734.0	18,734.2	10,529.0	122.9	125.4	130.80	8,059.5	912.2	1,220.6	1,015.8	204.79	5.960			
18,000.0	9,734.0	18,834.2	10,529.0	124.3	126.7	130.80	8,159.5	911.5	1,220.6	1,013.5	207.11	5.893			
18,100.0	9,734.0	18,934.2	10,529.0	125.7	128.1	130.80	8,259.5	910.8	1,220.6	1,011.1	209.43	5.828			
18,200.0	9,734.0	19,034.2	10,529.0	127.1	129.5	130.80	8,359.5	910.1	1,220.6	1,008.8	211.75	5.764			
18,300.0	9,734.0	19,134.2	10,529.0	128.5	130.9	130.80	8,459.5	909.4	1,220.6	1,006.5	214.08	5.702			
18,400.0	9,734.0	19,234.2	10,529.0	129.9	132.3	130.80	8,559.5	908.7	1,220.6	1,004.2	216.41	5.640			
18,500.0	9,734.0	19,334.2	10,529.0	131.3	133.6	130.80	8,659.5	908.1	1,220.6	1,001.8	218.74	5.580			
18,600.0	9,734.0	19,434.2	10,529.0	132.7	135.0	130.80	8,759.5	907.4	1,220.6	999.5	221.07	5.521			
18,700.0	9,734.0	19,534.2	10,529.0	134.1	136.4	130.80	8,859.5	906.7	1,220.6	997.2	223.40	5.464			
18,800.0	9,734.0	19,634.2	10,529.0	135.5	137.8	130.80	8,959.5	906.0	1,220.6	994.8	225.74	5.407			
18,900.0	9,734.0	19,734.2	10,529.0	136.9	139.2	130.80	9,059.5	905.3	1,220.6	992.5	228.07	5.352			
19,000.0	9,734.0	19,834.2	10,529.0	138.3	140.6	130.80	9,159.4	904.6	1,220.6	990.2	230.41	5.297			
19,100.0	9,734.0	19,934.2	10,529.0	139.7	142.0	130.80	9,259.4	903.9	1,220.6	987.8	232.75	5.244			
19,200.0	9,734.0	20,034.2	10,529.0	141.1	143.4	130.80	9,359.4	903.2	1,220.6	985.5	235.09	5.192			
19,300.0	9,734.0	20,134.2	10,529.0	142.5	144.8	130.80	9,459.4	902.5	1,220.6	983.1	237.44	5.141			
19,400.0	9,734.0	20,234.2	10,529.0	143.9	146.2	130.80	9,559.4	901.8	1,220.6	980.8	239.78	5.090			
19,500.0	9,734.0	20,334.2	10,529.0	145.3	147.6	130.80	9,659.4	901.1	1,220.6	978.4	242.13	5.041			
19,600.0	9,734.0	20,434.2	10,529.0	146.7	149.0	130.80	9,759.4	900.4	1,220.6	976.1	244.48	4.993			
19,700.0	9,734.0	20,534.2	10,529.0	148.2	150.4	130.80	9,859.4	899.7	1,220.6	973.7	246.82	4.945			
19,800.0	9,734.0	20,634.2	10,529.0	149.6	151.8	130.80	9,959.4	899.0	1,220.6	971.4	249.17	4.898			
19,900.0	9,734.0	20,734.2	10,529.0	151.0	153.2	130.80	10,059.4	898.3	1,220.6	969.0	251.53	4.853			
19,968.0	9,734.0	20,802.2	10,529.0	151.8	154.1	130.80	10,127.4	897.9	1,220.6	967.6	252.95	4.825 SF			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 304H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,800.0	5,782.9	6,224.4	6,160.3	20.5	23.9	86.09	-151.9	2,234.4	2,193.9	2,151.2	42.62	51.476	
5,900.0	5,882.9	6,322.8	6,257.0	20.8	24.4	86.28	-160.1	2,218.6	2,177.2	2,133.9	43.34	50.237	
6,000.0	5,982.9	6,421.1	6,353.7	21.1	24.8	86.47	-168.3	2,202.7	2,160.6	2,116.5	44.06	49.038	
6,100.0	6,082.9	6,519.5	6,450.4	21.5	25.2	86.66	-176.6	2,186.9	2,144.0	2,099.2	44.78	47.876	
6,200.0	6,182.9	6,617.8	6,547.2	21.8	25.6	86.86	-184.8	2,171.1	2,127.4	2,081.9	45.51	46.750	
6,300.0	6,282.9	6,716.2	6,643.9	22.2	26.1	87.06	-193.0	2,155.3	2,110.9	2,064.7	46.23	45.659	
6,400.0	6,382.9	6,814.5	6,740.6	22.5	26.5	87.27	-201.2	2,139.5	2,094.4	2,047.4	46.96	44.602	
6,500.0	6,482.9	6,912.9	6,837.3	22.8	26.9	87.48	-209.4	2,123.7	2,077.9	2,030.2	47.68	43.576	
6,600.0	6,582.9	7,011.2	6,934.0	23.2	27.3	87.69	-217.6	2,107.9	2,061.4	2,013.0	48.41	42.580	
6,700.0	6,682.9	7,109.5	7,030.8	23.5	27.8	87.90	-225.8	2,092.0	2,045.0	1,995.8	49.14	41.613	
6,800.0	6,782.9	7,207.9	7,127.5	23.9	28.2	88.12	-234.0	2,076.2	2,028.6	1,978.7	49.87	40.674	
6,900.0	6,882.9	7,306.2	7,224.2	24.2	28.6	88.34	-242.2	2,060.4	2,012.2	1,961.6	50.61	39.762	
7,000.0	6,982.9	7,404.6	7,320.9	24.6	29.0	88.57	-250.4	2,044.6	1,995.8	1,944.5	51.34	38.876	
7,100.0	7,082.9	7,502.9	7,417.6	24.9	29.5	88.80	-258.6	2,028.8	1,979.5	1,927.4	52.07	38.015	
7,200.0	7,182.9	7,588.4	7,501.7	25.3	29.8	89.00	-265.7	2,015.1	1,963.3	1,910.5	52.79	37.195	
7,300.0	7,282.9	7,649.5	7,562.0	25.6	30.1	89.13	-270.3	2,006.2	1,948.7	1,895.2	53.44	36.462	
7,400.0	7,382.9	7,700.0	7,612.0	25.9	30.3	89.23	-273.7	1,999.8	1,936.0	1,881.9	54.06	35.811	
7,500.0	7,482.9	7,773.0	7,684.4	26.3	30.6	89.35	-277.8	1,991.8	1,925.1	1,870.4	54.71	35.185	
7,600.0	7,582.9	7,835.3	7,746.4	26.6	30.8	89.43	-280.6	1,986.3	1,916.2	1,860.9	55.32	34.638	
7,700.0	7,682.9	7,900.0	7,810.9	27.0	31.1	89.50	-282.9	1,981.9	1,909.3	1,853.4	55.92	34.144	
7,800.0	7,782.9	7,960.4	7,871.2	27.3	31.3	89.54	-284.5	1,978.9	1,904.3	1,847.8	56.48	33.718	
7,900.0	7,882.9	8,023.2	7,934.0	27.7	31.5	89.57	-285.5	1,977.0	1,901.3	1,844.3	57.02	33.342	
8,000.0	7,982.9	8,089.2	8,000.0	28.0	31.7	89.58	-285.8	1,976.3	1,900.2	1,842.6	57.56	33.012	
8,035.1	8,018.0	8,119.3	8,030.0	28.2	31.8	89.58	-285.8	1,976.3	1,900.2	1,842.4	57.77	32.890	
8,100.0	8,082.9	8,184.1	8,094.9	28.4	32.0	89.58	-285.8	1,976.3	1,900.2	1,842.0	58.21	32.645	
8,200.0	8,182.9	8,284.1	8,194.9	28.7	32.3	89.58	-285.8	1,976.3	1,900.2	1,841.3	58.88	32.272	
8,300.0	8,282.9	8,384.1	8,294.9	29.1	32.6	89.58	-285.8	1,976.3	1,900.2	1,840.6	59.55	31.908	
8,307.2	8,290.1	8,391.4	8,302.1	29.1	32.6	89.58	-285.8	1,976.3	1,900.2	1,840.6	59.60	31.882 CC	
8,400.0	8,382.9	8,483.7	8,394.3	29.4	32.9	89.48	-282.3	1,976.3	1,900.2	1,840.0	60.21	31.558	
8,500.0	8,482.9	8,578.3	8,486.5	29.8	33.2	88.86	-261.7	1,976.2	1,900.4	1,839.6	60.79	31.263 ES	
8,600.0	8,582.9	8,662.1	8,563.3	30.1	33.3	87.86	-228.5	1,976.0	1,901.4	1,840.1	61.26	31.040	
8,700.0	8,682.9	8,732.6	8,622.7	30.5	33.4	86.71	-190.6	1,975.7	1,904.0	1,842.4	61.62	30.899	
8,800.0	8,782.9	8,790.4	8,666.7	30.8	33.5	85.59	-153.2	1,975.5	1,909.2	1,847.3	61.88	30.852	
8,900.0	8,882.9	8,837.4	8,699.0	31.2	33.5	84.57	-119.1	1,975.2	1,917.6	1,855.6	62.04	30.910	
9,000.0	8,982.9	8,875.0	8,722.4	31.5	33.5	83.69	-89.6	1,975.1	1,929.8	1,867.7	62.08	31.084	
9,100.0	9,082.9	8,906.9	8,740.3	31.9	33.5	82.90	-63.2	1,974.9	1,945.9	1,883.9	62.02	31.375	
9,200.0	9,182.9	8,932.9	8,753.5	32.2	33.5	82.24	-40.9	1,974.7	1,966.2	1,904.4	61.85	31.790	
9,300.0	9,282.9	8,950.0	8,761.6	32.6	33.5	84.45	-25.8	1,974.6	1,990.8	1,929.2	61.56	32.337	
9,400.0	9,381.4	8,975.0	8,772.4	32.9	33.5	80.50	-3.3	1,974.5	2,017.7	1,956.5	61.23	32.954	
9,500.0	9,474.5	9,000.0	8,782.0	33.2	33.5	76.62	19.8	1,974.3	2,045.1	1,984.3	60.85	33.611	
9,600.0	9,558.1	9,036.1	8,793.7	33.4	33.5	72.86	53.9	1,974.1	2,071.3	2,010.8	60.51	34.232	
9,700.0	9,628.4	9,075.0	8,803.4	33.7	33.5	69.62	91.6	1,973.9	2,094.9	2,034.7	60.22	34.787	
9,800.0	9,682.6	9,100.0	8,808.0	33.9	33.4	67.17	116.2	1,973.7	2,114.5	2,054.5	60.00	35.240	
9,900.0	9,718.1	9,133.4	8,812.1	34.0	33.4	65.35	149.3	1,973.5	2,129.3	2,069.3	59.95	35.515	
10,000.0	9,733.4	9,167.1	8,813.9	34.2	33.4	64.29	183.0	1,973.2	2,138.5	2,078.4	60.08	35.595	
10,100.0	9,734.0	9,250.2	8,814.0	34.4	33.3	64.21	266.0	1,972.7	2,142.6	2,082.3	60.35	35.501	
10,200.0	9,734.0	9,350.2	8,814.0	34.7	33.3	64.23	366.0	1,972.0	2,143.6	2,082.9	60.72	35.304	
10,300.0	9,734.0	9,450.2	8,814.0	35.0	33.3	64.23	466.0	1,971.4	2,143.7	2,082.5	61.20	35.030	
10,400.0	9,734.0	9,550.2	8,814.0	35.3	33.4	64.23	566.0	1,970.7	2,143.7	2,081.9	61.79	34.694	
10,500.0	9,734.0	9,650.2	8,814.0	35.8	33.6	64.23	666.0	1,970.1	2,143.7	2,081.2	62.49	34.304	
10,600.0	9,734.0	9,750.2	8,814.0	36.2	34.0	64.23	766.0	1,969.4	2,143.8	2,080.5	63.30	33.865	
10,700.0	9,734.0	9,850.2	8,814.0	36.8	34.5	64.23	866.0	1,968.7	2,143.8	2,079.6	64.22	33.383	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 304H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM								Rule Assigned:				Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre	Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
+N/-S (usft)	+E/-W (usft)			(usft)	(usft)								
10,800.0	9,734.0	9,950.2	8,814.0	37.3	35.1	64.23	966.0	1,968.1	2,143.8	2,078.6	65.23	32.865	
10,900.0	9,734.0	10,050.2	8,814.0	37.9	35.7	64.23	1,066.0	1,967.4	2,143.8	2,077.5	66.34	32.317	
11,000.0	9,734.0	10,150.2	8,814.0	38.6	36.3	64.23	1,166.0	1,966.7	2,143.9	2,076.3	67.54	31.744	
11,100.0	9,734.0	10,250.2	8,814.0	39.3	37.0	64.23	1,266.0	1,966.1	2,143.9	2,075.1	68.82	31.152	
11,200.0	9,734.0	10,350.2	8,814.0	40.1	37.7	64.23	1,366.0	1,965.4	2,143.9	2,073.7	70.18	30.547	
11,300.0	9,734.0	10,450.2	8,814.0	40.8	38.5	64.23	1,466.0	1,964.8	2,144.0	2,072.3	71.62	29.933	
11,400.0	9,734.0	10,550.2	8,814.0	41.7	39.3	64.23	1,566.0	1,964.1	2,144.0	2,070.9	73.14	29.315	
11,500.0	9,734.0	10,650.2	8,814.0	42.5	40.2	64.23	1,666.0	1,963.4	2,144.0	2,069.3	74.71	28.696	
11,600.0	9,734.0	10,750.2	8,814.0	43.4	41.0	64.24	1,766.0	1,962.8	2,144.0	2,067.7	76.36	28.080	
11,700.0	9,734.0	10,850.2	8,814.0	44.3	42.0	64.24	1,866.0	1,962.1	2,144.1	2,066.0	78.06	27.468	
11,800.0	9,734.0	10,950.2	8,814.0	45.3	42.9	64.24	1,966.0	1,961.5	2,144.1	2,064.3	79.81	26.865	
11,900.0	9,734.0	11,050.2	8,814.0	46.2	43.9	64.24	2,066.0	1,960.8	2,144.1	2,062.5	81.62	26.270	
12,000.0	9,734.0	11,150.2	8,814.0	47.2	44.8	64.24	2,166.0	1,960.1	2,144.2	2,060.7	83.47	25.687	
12,100.0	9,734.0	11,250.2	8,814.0	48.2	45.9	64.24	2,266.0	1,959.5	2,144.2	2,058.8	85.37	25.115	
12,200.0	9,734.0	11,350.2	8,814.0	49.3	46.9	64.24	2,366.0	1,958.8	2,144.2	2,056.9	87.32	24.557	
12,300.0	9,734.0	11,450.2	8,814.0	50.3	48.0	64.24	2,466.0	1,958.2	2,144.3	2,055.0	89.30	24.013	
12,400.0	9,734.0	11,550.2	8,814.0	51.4	49.0	64.24	2,566.0	1,957.5	2,144.3	2,053.0	91.32	23.482	
12,500.0	9,734.0	11,650.2	8,814.0	52.5	50.1	64.24	2,666.0	1,956.8	2,144.3	2,050.9	93.37	22.966	
12,600.0	9,734.0	11,750.2	8,814.0	53.6	51.2	64.24	2,766.0	1,956.2	2,144.3	2,048.9	95.45	22.465	
12,700.0	9,734.0	11,850.2	8,814.0	54.7	52.4	64.24	2,866.0	1,955.5	2,144.4	2,046.8	97.57	21.978	
12,800.0	9,734.0	11,950.2	8,814.0	55.9	53.5	64.24	2,966.0	1,954.8	2,144.4	2,044.7	99.71	21.506	
12,900.0	9,734.0	12,050.2	8,814.0	57.0	54.7	64.24	3,066.0	1,954.2	2,144.4	2,042.5	101.88	21.049	
13,000.0	9,734.0	12,150.2	8,814.0	58.2	55.8	64.24	3,166.0	1,953.5	2,144.5	2,040.4	104.07	20.606	
13,100.0	9,734.0	12,250.2	8,814.0	59.4	57.0	64.24	3,266.0	1,952.9	2,144.5	2,038.2	106.29	20.176	
13,200.0	9,734.0	12,350.2	8,814.0	60.6	58.2	64.24	3,365.9	1,952.2	2,144.5	2,036.0	108.53	19.760	
13,300.0	9,734.0	12,450.2	8,814.0	61.8	59.4	64.24	3,465.9	1,951.5	2,144.5	2,033.8	110.79	19.357	
13,400.0	9,734.0	12,550.2	8,814.0	63.0	60.6	64.24	3,565.9	1,950.9	2,144.6	2,031.5	113.06	18.968	
13,500.0	9,734.0	12,650.2	8,814.0	64.2	61.9	64.24	3,665.9	1,950.2	2,144.6	2,029.2	115.36	18.590	
13,600.0	9,734.0	12,750.2	8,814.0	65.4	63.1	64.24	3,765.9	1,949.6	2,144.6	2,027.0	117.67	18.225	
13,700.0	9,734.0	12,850.2	8,814.0	66.7	64.3	64.24	3,865.9	1,948.9	2,144.7	2,024.7	120.00	17.872	
13,800.0	9,734.0	12,950.2	8,814.0	67.9	65.6	64.24	3,965.9	1,948.2	2,144.7	2,022.3	122.35	17.530	
13,900.0	9,734.0	13,050.2	8,814.0	69.2	66.8	64.24	4,065.9	1,947.6	2,144.7	2,020.0	124.71	17.198	
14,000.0	9,734.0	13,150.2	8,814.0	70.4	68.1	64.24	4,165.9	1,946.9	2,144.7	2,017.7	127.08	16.878	
14,100.0	9,734.0	13,250.2	8,814.0	71.7	69.4	64.24	4,265.9	1,946.2	2,144.8	2,015.3	129.46	16.567	
14,200.0	9,734.0	13,350.2	8,814.0	73.0	70.7	64.24	4,365.9	1,945.6	2,144.8	2,012.9	131.86	16.266	
14,300.0	9,734.0	13,450.2	8,814.0	74.3	72.0	64.25	4,465.9	1,944.9	2,144.8	2,010.6	134.27	15.974	
14,400.0	9,734.0	13,550.2	8,814.0	75.6	73.3	64.25	4,565.9	1,944.3	2,144.9	2,008.2	136.69	15.692	
14,500.0	9,734.0	13,650.2	8,814.0	76.9	74.6	64.25	4,665.9	1,943.6	2,144.9	2,005.8	139.11	15.418	
14,600.0	9,734.0	13,750.2	8,814.0	78.2	75.9	64.25	4,765.9	1,942.9	2,144.9	2,003.4	141.55	15.153	
14,700.0	9,734.0	13,850.2	8,814.0	79.5	77.2	64.25	4,865.9	1,942.3	2,145.0	2,001.0	144.00	14.895	
14,800.0	9,734.0	13,950.2	8,814.0	80.8	78.5	64.25	4,965.9	1,941.6	2,145.0	1,998.5	146.46	14.646	
14,900.0	9,734.0	14,050.2	8,814.0	82.1	79.8	64.25	5,065.9	1,941.0	2,145.0	1,996.1	148.92	14.404	
15,000.0	9,734.0	14,150.2	8,814.0	83.4	81.1	64.25	5,165.9	1,940.3	2,145.0	1,993.6	151.39	14.169	
15,100.0	9,734.0	14,250.2	8,814.0	84.7	82.4	64.25	5,265.9	1,939.6	2,145.1	1,991.2	153.88	13.940	
15,200.0	9,734.0	14,350.2	8,814.0	86.1	83.8	64.25	5,365.9	1,939.0	2,145.1	1,988.7	156.36	13.719	
15,300.0	9,734.0	14,450.2	8,814.0	87.4	85.1	64.25	5,465.9	1,938.3	2,145.1	1,986.3	158.86	13.504	
15,400.0	9,734.0	14,550.2	8,814.0	88.7	86.5	64.25	5,565.9	1,937.6	2,145.2	1,983.8	161.36	13.294	
15,500.0	9,734.0	14,650.2	8,814.0	90.1	87.8	64.25	5,665.9	1,937.0	2,145.2	1,981.3	163.86	13.091	
15,600.0	9,734.0	14,750.2	8,814.0	91.4	89.1	64.25	5,765.9	1,936.3	2,145.2	1,978.8	166.38	12.894	
15,700.0	9,734.0	14,850.2	8,814.0	92.8	90.5	64.25	5,865.9	1,935.7	2,145.2	1,976.3	168.90	12.702	
15,800.0	9,734.0	14,950.2	8,814.0	94.1	91.8	64.25	5,965.9	1,935.0	2,145.3	1,973.9	171.42	12.515	
15,900.0	9,734.0	15,050.2	8,814.0	95.5	93.2	64.25	6,065.9	1,934.3	2,145.3	1,971.4	173.95	12.333	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 304H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,000.0	9,734.0	15,150.2	8,814.0	96.8	94.5	64.25	6,165.9	1,933.7	2,145.3	1,968.8	176.48	12.156	
16,100.0	9,734.0	15,250.2	8,814.0	98.2	95.9	64.25	6,265.9	1,933.0	2,145.4	1,966.3	179.02	11.984	
16,200.0	9,734.0	15,350.2	8,814.0	99.5	97.3	64.25	6,365.9	1,932.4	2,145.4	1,963.8	181.57	11.816	
16,300.0	9,734.0	15,450.2	8,814.0	100.9	98.6	64.25	6,465.9	1,931.7	2,145.4	1,961.3	184.11	11.653	
16,400.0	9,734.0	15,550.2	8,814.0	102.3	100.0	64.25	6,565.9	1,931.0	2,145.4	1,958.8	186.66	11.494	
16,500.0	9,734.0	15,650.2	8,814.0	103.6	101.4	64.25	6,665.9	1,930.4	2,145.5	1,956.3	189.22	11.338	
16,600.0	9,734.0	15,750.2	8,814.0	105.0	102.7	64.25	6,765.9	1,929.7	2,145.5	1,953.7	191.78	11.187	
16,700.0	9,734.0	15,850.2	8,814.0	106.4	104.1	64.25	6,865.9	1,929.1	2,145.5	1,951.2	194.34	11.040	
16,800.0	9,734.0	15,950.2	8,814.0	107.7	105.5	64.25	6,965.9	1,928.4	2,145.6	1,948.7	196.91	10.896	
16,900.0	9,734.0	16,050.2	8,814.0	109.1	106.9	64.25	7,065.9	1,927.7	2,145.6	1,946.1	199.48	10.756	
17,000.0	9,734.0	16,150.2	8,814.0	110.5	108.2	64.25	7,165.9	1,927.1	2,145.6	1,943.6	202.06	10.619	
17,100.0	9,734.0	16,250.2	8,814.0	111.9	109.6	64.26	7,265.9	1,926.4	2,145.7	1,941.0	204.63	10.485	
17,200.0	9,734.0	16,350.2	8,814.0	113.2	111.0	64.26	7,365.9	1,925.7	2,145.7	1,938.5	207.21	10.355	
17,300.0	9,734.0	16,450.2	8,814.0	114.6	112.4	64.26	7,465.9	1,925.1	2,145.7	1,935.9	209.80	10.228	
17,400.0	9,734.0	16,550.2	8,814.0	116.0	113.8	64.26	7,565.9	1,924.4	2,145.7	1,933.4	212.38	10.103	
17,500.0	9,734.0	16,650.2	8,814.0	117.4	115.2	64.26	7,665.9	1,923.8	2,145.8	1,930.8	214.97	9.982	
17,600.0	9,734.0	16,750.2	8,814.0	118.8	116.6	64.26	7,765.9	1,923.1	2,145.8	1,928.2	217.56	9.863	
17,700.0	9,734.0	16,850.2	8,814.0	120.2	117.9	64.26	7,865.8	1,922.4	2,145.8	1,925.7	220.15	9.747	
17,800.0	9,734.0	16,950.2	8,814.0	121.6	119.3	64.26	7,965.8	1,921.8	2,145.9	1,923.1	222.75	9.633	
17,900.0	9,734.0	17,050.2	8,814.0	122.9	120.7	64.26	8,065.8	1,921.1	2,145.9	1,920.5	225.35	9.522	
18,000.0	9,734.0	17,150.2	8,814.0	124.3	122.1	64.26	8,165.8	1,920.5	2,145.9	1,918.0	227.95	9.414	
18,100.0	9,734.0	17,250.2	8,814.0	125.7	123.5	64.26	8,265.8	1,919.8	2,145.9	1,915.4	230.55	9.308	
18,200.0	9,734.0	17,350.2	8,814.0	127.1	124.9	64.26	8,365.8	1,919.1	2,146.0	1,912.8	233.16	9.204	
18,300.0	9,734.0	17,450.2	8,814.0	128.5	126.3	64.26	8,465.8	1,918.5	2,146.0	1,910.2	235.77	9.102	
18,400.0	9,734.0	17,550.2	8,814.0	129.9	127.7	64.26	8,565.8	1,917.8	2,146.0	1,907.7	238.37	9.003	
18,500.0	9,734.0	17,650.2	8,814.0	131.3	129.1	64.26	8,665.8	1,917.1	2,146.1	1,905.1	240.99	8.905	
18,600.0	9,734.0	17,750.2	8,814.0	132.7	130.5	64.26	8,765.8	1,916.5	2,146.1	1,902.5	243.60	8.810	
18,700.0	9,734.0	17,850.2	8,814.0	134.1	131.9	64.26	8,865.8	1,915.8	2,146.1	1,899.9	246.21	8.716	
18,800.0	9,734.0	17,950.2	8,814.0	135.5	133.3	64.26	8,965.8	1,915.2	2,146.1	1,897.3	248.83	8.625	
18,900.0	9,734.0	18,050.2	8,814.0	136.9	134.7	64.26	9,065.8	1,914.5	2,146.2	1,894.7	251.45	8.535	
19,000.0	9,734.0	18,150.2	8,814.0	138.3	136.1	64.26	9,165.8	1,913.8	2,146.2	1,892.1	254.07	8.447	
19,100.0	9,734.0	18,250.2	8,814.0	139.7	137.5	64.26	9,265.8	1,913.2	2,146.2	1,889.5	256.69	8.361	
19,200.0	9,734.0	18,350.2	8,814.0	141.1	138.9	64.26	9,365.8	1,912.5	2,146.3	1,886.9	259.31	8.277	
19,300.0	9,734.0	18,450.2	8,814.0	142.5	140.3	64.26	9,465.8	1,911.9	2,146.3	1,884.4	261.94	8.194	
19,400.0	9,734.0	18,550.2	8,814.0	143.9	141.7	64.26	9,565.8	1,911.2	2,146.3	1,881.8	264.56	8.113	
19,500.0	9,734.0	18,650.2	8,814.0	145.3	143.2	64.26	9,665.8	1,910.5	2,146.3	1,879.2	267.19	8.033	
19,600.0	9,734.0	18,750.2	8,814.0	146.7	144.6	64.26	9,765.8	1,909.9	2,146.4	1,876.6	269.82	7.955	
19,700.0	9,734.0	18,850.2	8,814.0	148.2	146.0	64.26	9,865.8	1,909.2	2,146.4	1,874.0	272.45	7.878	
19,800.0	9,734.0	18,950.2	8,814.0	149.6	147.4	64.27	9,965.8	1,908.5	2,146.4	1,871.4	275.08	7.803	
19,900.0	9,734.0	19,050.2	8,814.0	151.0	148.8	64.27	10,065.8	1,907.9	2,146.5	1,868.8	277.71	7.729	
19,968.0	9,734.0	19,118.1	8,814.0	151.8	149.8	64.27	10,133.8	1,907.4	2,146.5	1,867.1	279.34	7.684 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 503H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,100.0	4,087.5	4,815.6	4,720.9	14.4	19.5	-81.04	-94.6	2,154.1	2,193.6	2,162.6	30.94	70.892	
4,200.0	4,186.9	4,910.5	4,811.8	14.8	20.0	-81.27	-99.1	2,127.3	2,163.2	2,131.5	31.68	68.287	
4,300.0	4,286.2	5,005.4	4,902.8	15.2	20.5	-81.51	-103.6	2,100.5	2,132.9	2,100.4	32.42	65.798	
4,400.0	4,385.5	5,100.3	4,993.7	15.5	21.0	-81.75	-108.1	2,073.7	2,102.5	2,069.4	33.15	63.417	
4,500.0	4,484.9	5,195.2	5,084.6	15.9	21.5	-82.01	-112.5	2,046.9	2,072.3	2,038.4	33.89	61.139	
4,600.0	4,584.2	5,290.1	5,175.5	16.3	22.0	-82.27	-117.0	2,020.1	2,042.0	2,007.4	34.64	58.958	
4,700.0	4,683.5	5,385.0	5,266.5	16.7	22.5	-82.45	-121.5	1,993.3	2,011.9	1,976.5	35.38	56.867	
4,800.0	4,783.1	5,480.2	5,357.6	17.0	23.0	-82.04	-126.0	1,966.4	1,982.0	1,945.9	36.12	54.876	
4,900.0	4,882.9	5,575.7	5,449.2	17.4	23.5	-81.54	-130.5	1,939.4	1,952.6	1,915.7	36.85	52.990	
5,000.0	4,982.9	5,671.4	5,540.9	17.8	24.0	-80.95	-135.0	1,912.4	1,923.7	1,886.1	37.57	51.201	
5,100.0	5,082.9	5,767.2	5,632.7	18.1	24.5	84.94	-139.5	1,885.3	1,895.1	1,856.8	38.28	49.507	
5,200.0	5,182.9	5,863.0	5,724.5	18.4	25.0	85.01	-144.0	1,858.3	1,866.5	1,827.6	38.99	47.873	
5,300.0	5,282.9	5,958.9	5,816.3	18.8	25.5	85.08	-148.6	1,831.2	1,838.0	1,798.3	39.70	46.297	
5,400.0	5,382.9	6,054.7	5,908.1	19.1	26.0	85.15	-153.1	1,804.1	1,809.4	1,769.0	40.41	44.775	
5,500.0	5,482.9	6,150.5	5,999.9	19.4	26.5	85.23	-157.6	1,777.1	1,780.9	1,739.8	41.13	43.303	
5,600.0	5,582.9	6,246.3	6,091.7	19.8	27.0	85.30	-162.1	1,750.0	1,752.4	1,710.5	41.84	41.881	
5,700.0	5,682.9	6,342.1	6,183.5	20.1	27.6	85.38	-166.7	1,723.0	1,723.8	1,681.3	42.56	40.506	
5,800.0	5,782.9	6,437.9	6,275.3	20.5	28.1	85.47	-171.2	1,695.9	1,695.3	1,652.0	43.27	39.175	
5,900.0	5,882.9	6,533.7	6,367.1	20.8	28.6	85.55	-175.7	1,668.8	1,666.7	1,622.7	43.99	37.886	
6,000.0	5,982.9	6,629.5	6,458.9	21.1	29.1	85.64	-180.2	1,641.8	1,638.2	1,593.5	44.71	36.638	
6,100.0	6,082.9	6,725.4	6,550.7	21.5	29.6	85.73	-184.7	1,614.7	1,609.7	1,564.2	45.43	35.429	
6,200.0	6,182.9	6,821.2	6,642.5	21.8	30.1	85.82	-189.3	1,587.6	1,581.2	1,535.0	46.16	34.257	
6,300.0	6,282.9	6,917.0	6,734.3	22.2	30.6	85.92	-193.8	1,560.6	1,552.6	1,505.8	46.88	33.120	
6,400.0	6,382.9	7,012.8	6,826.1	22.5	31.2	86.02	-198.3	1,533.5	1,524.1	1,476.5	47.60	32.017	
6,500.0	6,482.9	7,108.6	6,917.9	22.8	31.7	86.13	-202.8	1,506.5	1,495.6	1,447.3	48.33	30.947	
6,600.0	6,582.9	7,204.4	7,009.7	23.2	32.2	86.24	-207.3	1,479.4	1,467.1	1,418.0	49.05	29.907	
6,700.0	6,682.9	7,300.2	7,101.5	23.5	32.7	86.35	-211.9	1,452.3	1,438.6	1,388.8	49.78	28.898	
6,800.0	6,782.9	7,396.0	7,193.3	23.9	33.2	86.47	-216.4	1,425.3	1,410.1	1,359.6	50.51	27.917	
6,900.0	6,882.9	7,491.9	7,285.1	24.2	33.7	86.59	-220.9	1,398.2	1,381.6	1,330.4	51.24	26.964	
7,000.0	6,982.9	7,587.7	7,376.9	24.6	34.3	86.72	-225.4	1,371.2	1,353.1	1,301.2	51.97	26.037	
7,100.0	7,082.9	7,683.5	7,468.7	24.9	34.8	86.85	-229.9	1,344.1	1,324.6	1,271.9	52.70	25.135	
7,200.0	7,182.9	7,779.3	7,560.5	25.3	35.3	86.99	-234.5	1,317.0	1,296.2	1,242.7	53.43	24.257	
7,300.0	7,282.9	7,875.1	7,652.3	25.6	35.8	87.14	-239.0	1,290.0	1,267.7	1,213.5	54.17	23.403	
7,400.0	7,382.9	7,970.9	7,744.1	25.9	36.3	87.29	-243.5	1,262.9	1,239.3	1,184.4	54.90	22.572	
7,500.0	7,482.9	8,066.7	7,835.9	26.3	36.9	87.45	-248.0	1,235.9	1,210.8	1,155.2	55.64	21.762	
7,600.0	7,582.9	8,162.5	7,927.7	26.6	37.4	87.62	-252.5	1,208.8	1,182.4	1,126.0	56.38	20.973	
7,700.0	7,682.9	8,258.4	8,019.5	27.0	37.9	87.80	-257.1	1,181.7	1,153.9	1,096.8	57.11	20.204	
7,800.0	7,782.9	8,354.2	8,111.3	27.3	38.4	87.98	-261.6	1,154.7	1,125.5	1,067.7	57.85	19.455	
7,900.0	7,882.9	8,450.0	8,203.1	27.7	38.9	88.17	-266.1	1,127.6	1,097.1	1,038.5	58.59	18.724	
8,000.0	7,982.9	8,545.8	8,294.9	28.0	39.5	88.38	-270.6	1,100.5	1,068.7	1,009.4	59.34	18.011	
8,100.0	8,082.9	8,627.5	8,373.3	28.4	39.9	88.56	-274.4	1,077.7	1,040.7	980.6	60.13	17.309	
8,200.0	8,182.9	8,700.0	8,443.2	28.7	40.3	88.71	-277.6	1,059.1	1,014.8	953.9	60.93	16.654	
8,300.0	8,282.9	8,770.9	8,512.1	29.1	40.6	88.86	-280.3	1,042.5	991.3	929.6	61.72	16.062	
8,400.0	8,382.9	8,843.9	8,583.4	29.4	41.0	88.99	-282.9	1,027.2	970.3	907.9	62.48	15.531	
8,500.0	8,482.9	8,917.6	8,655.8	29.8	41.3	89.12	-285.2	1,013.6	951.8	888.6	63.20	15.060	
8,600.0	8,582.9	9,000.0	8,737.2	30.1	41.6	89.24	-287.3	1,000.6	935.9	871.9	63.91	14.643	
8,700.0	8,682.9	9,067.1	8,803.6	30.5	41.9	89.32	-288.8	991.7	922.4	857.8	64.55	14.289	
8,800.0	8,782.9	9,142.6	8,878.7	30.8	42.2	89.40	-290.2	983.5	911.5	846.3	65.17	13.986	
8,900.0	8,882.9	9,218.5	8,954.3	31.2	42.4	89.47	-291.2	977.2	903.2	837.5	65.75	13.737	
9,000.0	8,982.9	9,300.0	9,035.7	31.5	42.7	89.51	-292.0	972.7	897.6	831.3	66.33	13.532	
9,100.0	9,082.9	9,371.0	9,106.7	31.9	42.9	89.53	-292.3	970.6	894.6	827.8	66.80	13.393	
9,193.9	9,176.8	9,449.8	9,185.4	32.2	43.1	89.54	-292.4	970.2	894.0	826.7	67.29	13.286	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 503H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,200.0	9,182.9	9,455.8	9,191.5	32.2	43.1	89.54	-292.4	970.2	894.0	826.7	67.33	13.278	CC
9,200.0	9,182.9	9,455.8	9,191.5	32.2	43.1	89.54	-292.4	970.2	894.0	826.7	67.33	13.278	
9,300.0	9,282.9	9,555.7	9,291.4	32.6	43.4	93.00	-291.1	970.2	894.1	826.1	67.98	13.151	
9,400.0	9,381.4	9,655.2	9,389.1	32.9	43.6	92.78	-273.6	970.1	894.9	826.4	68.58	13.049	
9,500.0	9,474.5	9,754.3	9,480.8	33.2	43.8	92.45	-236.5	969.8	896.9	827.8	69.10	12.979	
9,600.0	9,558.1	9,853.1	9,562.6	33.4	44.0	92.00	-181.4	969.4	899.9	830.3	69.55	12.938	
9,700.0	9,628.4	9,951.6	9,631.2	33.7	44.1	91.47	-111.0	968.9	903.7	833.8	69.93	12.922	
9,800.0	9,682.6	10,050.0	9,683.8	33.9	44.1	90.88	-28.0	968.4	908.2	838.0	70.28	12.924	
9,900.0	9,718.1	10,148.0	9,718.3	34.0	44.1	90.25	63.5	967.7	913.3	842.7	70.60	12.937	
10,000.0	9,733.4	10,246.0	9,733.4	34.2	44.1	89.61	160.2	967.1	918.6	847.7	70.90	12.956	
10,100.0	9,734.0	10,345.5	9,734.0	34.4	44.1	89.47	259.7	966.4	923.0	851.8	71.25	12.955	
10,200.0	9,734.0	10,445.5	9,734.0	34.7	44.1	89.47	359.7	965.7	924.1	852.4	71.69	12.889	
10,300.0	9,734.0	10,545.5	9,734.0	35.0	44.2	89.47	459.7	965.0	924.1	851.8	72.26	12.789	
10,400.0	9,734.0	10,645.5	9,734.0	35.3	44.3	89.47	559.7	964.3	924.1	851.2	72.93	12.672	
10,500.0	9,734.0	10,745.5	9,734.0	35.8	44.5	89.47	659.7	963.6	924.1	850.4	73.71	12.538	
10,600.0	9,734.0	10,845.5	9,734.0	36.2	44.7	89.47	759.7	962.9	924.1	849.5	74.59	12.389	
10,700.0	9,734.0	10,945.5	9,734.0	36.8	44.9	89.47	859.7	962.2	924.1	848.5	75.57	12.228	
10,800.0	9,734.0	11,045.5	9,734.0	37.3	45.2	89.47	959.6	961.5	924.1	847.4	76.65	12.056	
10,900.0	9,734.0	11,145.5	9,734.0	37.9	45.6	89.47	1,059.6	960.8	924.1	846.3	77.83	11.874	
11,000.0	9,734.0	11,245.5	9,734.0	38.6	46.0	89.47	1,159.6	960.1	924.1	845.0	79.09	11.684	
11,100.0	9,734.0	11,345.5	9,734.0	39.3	46.4	89.47	1,259.6	959.4	924.1	843.7	80.43	11.489	
11,200.0	9,734.0	11,445.5	9,734.0	40.1	46.9	89.47	1,359.6	958.7	924.1	842.2	81.86	11.289	
11,300.0	9,734.0	11,545.5	9,734.0	40.8	47.5	89.47	1,459.6	958.0	924.1	840.7	83.36	11.085	
11,400.0	9,734.0	11,645.5	9,734.0	41.7	48.1	89.47	1,559.6	957.3	924.1	839.2	84.94	10.880	
11,500.0	9,734.0	11,745.5	9,734.0	42.5	48.7	89.47	1,659.6	956.6	924.1	837.5	86.58	10.673	
11,600.0	9,734.0	11,845.5	9,734.0	43.4	49.4	89.47	1,759.6	956.0	924.1	835.8	88.29	10.467	
11,700.0	9,734.0	11,945.5	9,734.0	44.3	50.1	89.47	1,859.6	955.3	924.1	834.0	90.06	10.261	
11,800.0	9,734.0	12,045.5	9,734.0	45.3	50.9	89.47	1,959.6	954.6	924.1	832.2	91.88	10.058	
11,900.0	9,734.0	12,145.5	9,734.0	46.2	51.7	89.47	2,059.6	953.9	924.1	830.3	93.76	9.856	
12,000.0	9,734.0	12,245.5	9,734.0	47.2	52.5	89.47	2,159.6	953.2	924.1	828.4	95.69	9.657	
12,100.0	9,734.0	12,345.5	9,734.0	48.2	53.4	89.47	2,259.6	952.5	924.1	826.4	97.67	9.462	
12,200.0	9,734.0	12,445.5	9,734.0	49.3	54.3	89.47	2,359.6	951.8	924.1	824.4	99.69	9.270	
12,300.0	9,734.0	12,545.5	9,734.0	50.3	55.2	89.47	2,459.6	951.1	924.1	822.3	101.75	9.082	
12,400.0	9,734.0	12,645.5	9,734.0	51.4	56.2	89.47	2,559.6	950.4	924.1	820.2	103.85	8.898	
12,500.0	9,734.0	12,745.5	9,734.0	52.5	57.1	89.47	2,659.6	949.7	924.1	818.1	106.00	8.718	
12,600.0	9,734.0	12,845.5	9,734.0	53.6	58.1	89.47	2,759.6	949.0	924.1	815.9	108.17	8.543	
12,700.0	9,734.0	12,945.5	9,734.0	54.7	59.1	89.47	2,859.6	948.3	924.1	813.7	110.38	8.372	
12,800.0	9,734.0	13,045.5	9,734.0	55.9	60.2	89.47	2,959.6	947.6	924.1	811.5	112.62	8.205	
12,900.0	9,734.0	13,145.5	9,734.0	57.0	61.2	89.47	3,059.6	946.9	924.1	809.2	114.89	8.043	
13,000.0	9,734.0	13,245.5	9,734.0	58.2	62.3	89.47	3,159.6	946.2	924.1	806.9	117.19	7.886	
13,100.0	9,734.0	13,345.5	9,734.0	59.4	63.4	89.47	3,259.6	945.5	924.1	804.6	119.51	7.732	
13,200.0	9,734.0	13,445.5	9,734.0	60.6	64.5	89.47	3,359.6	944.8	924.1	802.2	121.86	7.583	
13,300.0	9,734.0	13,545.5	9,734.0	61.8	65.6	89.47	3,459.6	944.2	924.1	799.9	124.23	7.439	
13,400.0	9,734.0	13,645.5	9,734.0	63.0	66.7	89.47	3,559.6	943.5	924.1	797.5	126.62	7.298	
13,500.0	9,734.0	13,745.5	9,734.0	64.2	67.8	89.47	3,659.6	942.8	924.1	795.0	129.03	7.162	
13,600.0	9,734.0	13,845.5	9,734.0	65.4	69.0	89.47	3,759.6	942.1	924.1	792.6	131.46	7.029	
13,700.0	9,734.0	13,945.5	9,734.0	66.7	70.1	89.47	3,859.6	941.4	924.1	790.2	133.91	6.901	
13,800.0	9,734.0	14,045.5	9,734.0	67.9	71.3	89.47	3,959.6	940.7	924.1	787.7	136.38	6.776	
13,900.0	9,734.0	14,145.5	9,734.0	69.2	72.5	89.47	4,059.6	940.0	924.1	785.2	138.87	6.654	
14,000.0	9,734.0	14,245.5	9,734.0	70.4	73.7	89.47	4,159.6	939.3	924.1	782.7	141.37	6.537	
14,100.0	9,734.0	14,345.5	9,734.0	71.7	74.9	89.47	4,259.6	938.6	924.1	780.2	143.88	6.422	
14,200.0	9,734.0	14,445.5	9,734.0	73.0	76.1	89.47	4,359.6	937.9	924.1	777.7	146.41	6.312	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 503H - OH - Plan 0.1											Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
14,300.0	9,734.0	14,545.5	9,734.0	74.3	77.3	89.47	4,459.6	937.2	924.1	775.1	148.95	6.204
14,400.0	9,734.0	14,645.5	9,734.0	75.6	78.5	89.47	4,559.6	936.5	924.1	772.6	151.51	6.099
14,500.0	9,734.0	14,745.5	9,734.0	76.9	79.8	89.47	4,659.6	935.8	924.1	770.0	154.07	5.998
14,600.0	9,734.0	14,845.5	9,734.0	78.2	81.0	89.47	4,759.6	935.1	924.1	767.4	156.65	5.899
14,700.0	9,734.0	14,945.5	9,734.0	79.5	82.2	89.47	4,859.6	934.4	924.1	764.8	159.24	5.803
14,800.0	9,734.0	15,045.5	9,734.0	80.8	83.5	89.47	4,959.6	933.7	924.1	762.2	161.84	5.710
14,900.0	9,734.0	15,145.5	9,734.0	82.1	84.8	89.47	5,059.5	933.0	924.1	759.6	164.45	5.619
15,000.0	9,734.0	15,245.5	9,734.0	83.4	86.0	89.47	5,159.5	932.4	924.1	757.0	167.07	5.531
15,100.0	9,734.0	15,345.5	9,734.0	84.7	87.3	89.47	5,259.5	931.7	924.1	754.4	169.70	5.445
15,200.0	9,734.0	15,445.5	9,734.0	86.1	88.6	89.47	5,359.5	931.0	924.1	751.7	172.33	5.362
15,300.0	9,734.0	15,545.5	9,734.0	87.4	89.8	89.47	5,459.5	930.3	924.1	749.1	174.98	5.281
15,400.0	9,734.0	15,645.5	9,734.0	88.7	91.1	89.47	5,559.5	929.6	924.1	746.4	177.63	5.202
15,500.0	9,734.0	15,745.5	9,734.0	90.1	92.4	89.47	5,659.5	928.9	924.1	743.8	180.29	5.125
15,600.0	9,734.0	15,845.5	9,734.0	91.4	93.7	89.47	5,759.5	928.2	924.1	741.1	182.96	5.051
15,700.0	9,734.0	15,945.5	9,734.0	92.8	95.0	89.47	5,859.5	927.5	924.1	738.4	185.63	4.978
15,800.0	9,734.0	16,045.5	9,734.0	94.1	96.3	89.47	5,959.5	926.8	924.1	735.8	188.31	4.907
15,900.0	9,734.0	16,145.5	9,734.0	95.5	97.6	89.47	6,059.5	926.1	924.1	733.1	191.00	4.838
16,000.0	9,734.0	16,245.5	9,734.0	96.8	98.9	89.47	6,159.5	925.4	924.1	730.4	193.69	4.771
16,100.0	9,734.0	16,345.5	9,734.0	98.2	100.3	89.47	6,259.5	924.7	924.1	727.7	196.39	4.705
16,200.0	9,734.0	16,445.5	9,734.0	99.5	101.6	89.47	6,359.5	924.0	924.1	725.0	199.09	4.641
16,300.0	9,734.0	16,545.5	9,734.0	100.9	102.9	89.47	6,459.5	923.3	924.1	722.3	201.80	4.579
16,400.0	9,734.0	16,645.5	9,734.0	102.3	104.2	89.47	6,559.5	922.6	924.1	719.5	204.52	4.518
16,500.0	9,734.0	16,745.5	9,734.0	103.6	105.6	89.47	6,659.5	921.9	924.1	716.8	207.24	4.459
16,600.0	9,734.0	16,845.5	9,734.0	105.0	106.9	89.47	6,759.5	921.2	924.1	714.1	209.96	4.401
16,700.0	9,734.0	16,945.5	9,734.0	106.4	108.2	89.47	6,859.5	920.5	924.1	711.4	212.69	4.345
16,800.0	9,734.0	17,045.5	9,734.0	107.7	109.6	89.47	6,959.5	919.9	924.1	708.6	215.42	4.290
16,900.0	9,734.0	17,145.5	9,734.0	109.1	110.9	89.47	7,059.5	919.2	924.1	705.9	218.16	4.236
17,000.0	9,734.0	17,245.5	9,734.0	110.5	112.2	89.47	7,159.5	918.5	924.1	703.2	220.90	4.183
17,100.0	9,734.0	17,345.5	9,734.0	111.9	113.6	89.47	7,259.5	917.8	924.1	700.4	223.64	4.132
17,200.0	9,734.0	17,445.5	9,734.0	113.2	114.9	89.47	7,359.5	917.1	924.1	697.7	226.39	4.082
17,300.0	9,734.0	17,545.5	9,734.0	114.6	116.3	89.47	7,459.5	916.4	924.1	694.9	229.14	4.033
17,400.0	9,734.0	17,645.5	9,734.0	116.0	117.6	89.47	7,559.5	915.7	924.1	692.2	231.90	3.985
17,500.0	9,734.0	17,745.5	9,734.0	117.4	119.0	89.47	7,659.5	915.0	924.1	689.4	234.66	3.938
17,600.0	9,734.0	17,845.5	9,734.0	118.8	120.4	89.47	7,759.5	914.3	924.1	686.6	237.42	3.892
17,700.0	9,734.0	17,945.5	9,734.0	120.2	121.7	89.47	7,859.5	913.6	924.1	683.9	240.18	3.847
17,800.0	9,734.0	18,045.5	9,734.0	121.6	123.1	89.47	7,959.5	912.9	924.0	681.1	242.95	3.803
17,900.0	9,734.0	18,145.5	9,734.0	122.9	124.4	89.47	8,059.5	912.2	924.0	678.3	245.72	3.761
18,000.0	9,734.0	18,245.5	9,734.0	124.3	125.8	89.47	8,159.5	911.5	924.0	675.6	248.50	3.719
18,100.0	9,734.0	18,345.5	9,734.0	125.7	127.2	89.47	8,259.5	910.8	924.0	672.8	251.27	3.677
18,200.0	9,734.0	18,445.5	9,734.0	127.1	128.6	89.47	8,359.5	910.1	924.0	670.0	254.05	3.637
18,300.0	9,734.0	18,545.5	9,734.0	128.5	129.9	89.47	8,459.5	909.4	924.0	667.2	256.84	3.598
18,400.0	9,734.0	18,645.5	9,734.0	129.9	131.3	89.47	8,559.5	908.7	924.0	664.4	259.62	3.559
18,500.0	9,734.0	18,745.5	9,734.0	131.3	132.7	89.47	8,659.5	908.1	924.0	661.6	262.41	3.521
18,600.0	9,734.0	18,845.5	9,734.0	132.7	134.0	89.47	8,759.5	907.4	924.0	658.8	265.20	3.484
18,700.0	9,734.0	18,945.5	9,734.0	134.1	135.4	89.47	8,859.5	906.7	924.0	656.1	267.99	3.448
18,800.0	9,734.0	19,045.5	9,734.0	135.5	136.8	89.47	8,959.5	906.0	924.0	653.3	270.78	3.413
18,900.0	9,734.0	19,145.5	9,734.0	136.9	138.2	89.47	9,059.5	905.3	924.0	650.5	273.58	3.378
19,000.0	9,734.0	19,245.5	9,734.0	138.3	139.6	89.47	9,159.4	904.6	924.0	647.7	276.37	3.343
19,100.0	9,734.0	19,345.5	9,734.0	139.7	140.9	89.47	9,259.4	903.9	924.0	644.9	279.17	3.310
19,200.0	9,734.0	19,445.5	9,734.0	141.1	142.3	89.47	9,359.4	903.2	924.0	642.1	281.98	3.277
19,300.0	9,734.0	19,545.5	9,734.0	142.5	143.7	89.47	9,459.4	902.5	924.0	639.3	284.78	3.245
19,400.0	9,734.0	19,645.5	9,734.0	143.9	145.1	89.47	9,559.4	901.8	924.0	636.5	287.58	3.213

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 503H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
19,500.0	9,734.0	19,745.5	9,734.0	145.3	146.5	89.47	9,659.4	901.1	924.0	633.6	290.39	3.182		
19,600.0	9,734.0	19,845.5	9,734.0	146.7	147.9	89.47	9,759.4	900.4	924.0	630.8	293.20	3.152		
19,700.0	9,734.0	19,945.5	9,734.0	148.2	149.3	89.47	9,859.4	899.7	924.0	628.0	296.01	3.122		
19,800.0	9,734.0	20,045.5	9,734.0	149.6	150.7	89.47	9,959.4	899.0	924.0	625.2	298.82	3.092		
19,900.0	9,734.0	20,145.5	9,734.0	151.0	152.0	89.47	10,059.4	898.3	924.0	622.4	301.64	3.063		
19,968.0	9,734.0	20,213.4	9,734.0	151.8	153.0	89.47	10,127.4	897.9	924.0	620.6	303.40	3.046 ES, SF		

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 514H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
6,500.0	6,482.9	6,838.8	6,792.4	22.8	25.7	87.20	-193.2	2,248.8	2,195.8	2,148.8	47.04	46.683	
6,600.0	6,582.9	6,937.8	6,890.4	23.2	26.1	87.30	-197.8	2,235.4	2,182.1	2,134.4	47.75	45.701	
6,700.0	6,682.9	7,036.8	6,988.4	23.5	26.5	87.40	-202.3	2,222.1	2,168.5	2,120.0	48.46	44.747	
6,800.0	6,782.9	7,135.8	7,086.3	23.9	26.9	87.51	-206.8	2,208.8	2,154.8	2,105.6	49.17	43.821	
6,900.0	6,882.9	7,234.7	7,184.3	24.2	27.3	87.62	-211.4	2,195.5	2,141.2	2,091.3	49.89	42.921	
7,000.0	6,982.9	7,333.7	7,282.3	24.6	27.7	87.72	-215.9	2,182.1	2,127.5	2,076.9	50.60	42.045	
7,100.0	7,082.9	7,432.7	7,380.3	24.9	28.1	87.83	-220.4	2,168.8	2,113.9	2,062.5	51.31	41.194	
7,200.0	7,182.9	7,531.7	7,478.3	25.3	28.5	87.94	-224.9	2,155.5	2,100.2	2,048.2	52.03	40.366	
7,300.0	7,282.9	7,630.7	7,576.2	25.6	28.9	88.06	-229.5	2,142.2	2,086.6	2,033.9	52.75	39.560	
7,400.0	7,382.9	7,729.7	7,674.2	25.9	29.3	88.17	-234.0	2,128.8	2,073.0	2,019.5	53.46	38.775	
7,500.0	7,482.9	7,828.6	7,772.2	26.3	29.7	88.28	-238.5	2,115.5	2,059.4	2,005.2	54.18	38.010	
7,600.0	7,582.9	7,927.6	7,870.2	26.6	30.1	88.40	-243.1	2,102.2	2,045.8	1,990.9	54.90	37.266	
7,700.0	7,682.9	8,026.6	7,968.1	27.0	30.5	88.52	-247.6	2,088.9	2,032.2	1,976.6	55.61	36.540	
7,800.0	7,782.9	8,125.6	8,066.1	27.3	30.9	88.64	-252.1	2,075.5	2,018.6	1,962.3	56.33	35.833	
7,900.0	7,882.9	8,224.6	8,164.1	27.7	31.3	88.76	-256.6	2,062.2	2,005.0	1,948.0	57.05	35.144	
8,000.0	7,982.9	8,323.6	8,262.1	28.0	31.7	88.88	-261.2	2,048.9	1,991.4	1,933.7	57.77	34.471	
8,100.0	8,082.9	8,422.6	8,360.1	28.4	32.1	89.01	-265.7	2,035.5	1,977.9	1,919.4	58.49	33.815	
8,200.0	8,182.9	8,521.5	8,458.0	28.7	32.5	89.13	-270.2	2,022.2	1,964.3	1,905.1	59.21	33.174	
8,300.0	8,282.9	8,620.5	8,556.0	29.1	32.9	89.26	-274.8	2,008.9	1,950.8	1,890.9	59.93	32.549	
8,400.0	8,382.9	8,700.0	8,634.7	29.4	33.2	89.36	-278.3	1,998.5	1,937.7	1,877.1	60.62	31.964	
8,500.0	8,482.9	8,755.7	8,690.1	29.8	33.4	89.43	-280.4	1,992.3	1,926.4	1,865.1	61.25	31.454	
8,600.0	8,582.9	8,800.0	8,734.1	30.1	33.6	89.47	-281.8	1,988.1	1,917.2	1,855.4	61.81	31.016	
8,700.0	8,682.9	8,877.5	8,811.4	30.5	33.9	89.53	-283.8	1,982.2	1,909.8	1,847.4	62.46	30.578	
8,800.0	8,782.9	8,938.7	8,872.5	30.8	34.1	89.56	-284.9	1,979.0	1,904.6	1,841.6	63.03	30.217	
8,900.0	8,882.9	9,000.0	8,933.7	31.2	34.3	89.58	-285.6	1,977.1	1,901.4	1,837.8	63.58	29.903	
9,000.0	8,982.9	9,066.3	9,000.0	31.5	34.6	89.58	-285.8	1,976.3	1,900.2	1,836.1	64.13	29.629	
9,036.2	9,019.1	9,094.5	9,028.2	31.7	34.6	89.58	-285.8	1,976.3	1,900.2	1,835.9	64.34	29.532	
9,100.0	9,082.9	9,158.3	9,092.0	31.9	34.8	89.58	-285.8	1,976.3	1,900.2	1,835.4	64.78	29.334	
9,200.0	9,182.9	9,258.3	9,192.0	32.2	35.2	89.58	-285.8	1,976.3	1,900.2	1,834.7	65.46	29.028 CC	
9,200.1	9,183.0	9,258.3	9,192.1	32.2	35.2	89.58	-285.8	1,976.3	1,900.2	1,834.7	65.46	29.028	
9,300.0	9,282.9	9,358.1	9,291.8	32.6	35.5	93.06	-284.5	1,976.3	1,900.2	1,834.1	66.14	28.731	
9,400.0	9,381.4	9,457.5	9,389.5	32.9	35.8	92.90	-266.9	1,976.2	1,901.1	1,834.3	66.77	28.474	
9,500.0	9,474.5	9,556.6	9,481.1	33.2	36.0	92.62	-229.7	1,976.0	1,903.1	1,835.8	67.32	28.270	
9,600.0	9,558.1	9,655.3	9,562.8	33.4	36.2	92.21	-174.7	1,975.6	1,906.1	1,838.3	67.79	28.115	
9,700.0	9,628.4	9,753.6	9,631.2	33.7	36.3	91.72	-104.3	1,975.1	1,909.9	1,841.7	68.21	28.001	
9,800.0	9,682.6	9,851.8	9,683.8	33.9	36.3	91.15	-21.6	1,974.6	1,914.5	1,845.9	68.58	27.916	
9,900.0	9,718.1	9,950.0	9,718.3	34.0	36.3	90.52	70.2	1,974.0	1,919.6	1,850.6	68.93	27.849	
10,000.0	9,733.4	10,047.8	9,733.3	34.2	36.3	89.88	166.6	1,973.4	1,924.9	1,855.7	69.26	27.794	
10,100.0	9,734.0	10,147.2	9,734.0	34.4	36.3	89.73	266.0	1,972.7	1,929.4	1,859.7	69.62	27.712	
10,200.0	9,734.0	10,247.2	9,734.0	34.7	36.4	89.73	366.0	1,972.0	1,930.5	1,860.4	70.10	27.540	
10,300.0	9,734.0	10,347.2	9,734.0	35.0	36.6	89.73	466.0	1,971.4	1,930.5	1,859.8	70.69	27.311	
10,400.0	9,734.0	10,447.2	9,734.0	35.3	36.8	89.73	566.0	1,970.7	1,930.5	1,859.2	71.39	27.043	
10,500.0	9,734.0	10,547.2	9,734.0	35.8	37.2	89.73	666.0	1,970.1	1,930.6	1,858.4	72.20	26.740	
10,600.0	9,734.0	10,647.2	9,734.0	36.2	37.6	89.73	766.0	1,969.4	1,930.6	1,857.5	73.11	26.405	
10,700.0	9,734.0	10,747.2	9,734.0	36.8	38.1	89.73	866.0	1,968.7	1,930.6	1,856.5	74.13	26.043	
10,800.0	9,734.0	10,847.2	9,734.0	37.3	38.6	89.73	966.0	1,968.1	1,930.7	1,855.4	75.25	25.657	
10,900.0	9,734.0	10,947.2	9,734.0	37.9	39.2	89.73	1,066.0	1,967.4	1,930.7	1,854.2	76.46	25.252	
11,000.0	9,734.0	11,047.2	9,734.0	38.6	39.8	89.73	1,166.0	1,966.7	1,930.7	1,853.0	77.75	24.831	
11,100.0	9,734.0	11,147.2	9,734.0	39.3	40.5	89.73	1,266.0	1,966.1	1,930.8	1,851.6	79.14	24.397	
11,200.0	9,734.0	11,247.2	9,734.0	40.1	41.2	89.73	1,366.0	1,965.4	1,930.8	1,850.2	80.60	23.955	
11,300.0	9,734.0	11,347.2	9,734.0	40.8	42.0	89.73	1,466.0	1,964.8	1,930.8	1,848.7	82.14	23.507	
11,400.0	9,734.0	11,447.2	9,734.0	41.7	42.8	89.73	1,566.0	1,964.1	1,930.9	1,847.1	83.75	23.055	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 514H - OH - Plan 0.1												Offset Site Error: 0.0 usft			
Survey Program: 0-B001Mb_MWD+HRGM				Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
11,500.0	9,734.0	11,547.2	9,734.0	42.5	43.6	89.73	1,666.0	1,963.4	1,930.9	1,845.5	85.43	22.602			
11,600.0	9,734.0	11,647.2	9,734.0	43.4	44.4	89.73	1,766.0	1,962.8	1,930.9	1,843.8	87.17	22.151			
11,700.0	9,734.0	11,747.2	9,734.0	44.3	45.3	89.73	1,866.0	1,962.1	1,931.0	1,842.0	88.97	21.702			
11,800.0	9,734.0	11,847.2	9,734.0	45.3	46.2	89.73	1,966.0	1,961.5	1,931.0	1,840.2	90.83	21.259			
11,900.0	9,734.0	11,947.2	9,734.0	46.2	47.2	89.73	2,066.0	1,960.8	1,931.0	1,838.3	92.75	20.821			
12,000.0	9,734.0	12,047.2	9,734.0	47.2	48.1	89.73	2,166.0	1,960.1	1,931.1	1,836.3	94.71	20.390			
12,100.0	9,734.0	12,147.2	9,734.0	48.2	49.1	89.73	2,266.0	1,959.5	1,931.1	1,834.4	96.72	19.967			
12,200.0	9,734.0	12,247.2	9,734.0	49.3	50.1	89.73	2,366.0	1,958.8	1,931.1	1,832.3	98.77	19.552			
12,300.0	9,734.0	12,347.2	9,734.0	50.3	51.2	89.73	2,466.0	1,958.2	1,931.1	1,830.3	100.86	19.146			
12,400.0	9,734.0	12,447.2	9,734.0	51.4	52.2	89.73	2,566.0	1,957.5	1,931.2	1,828.2	103.00	18.750			
12,500.0	9,734.0	12,547.2	9,734.0	52.5	53.3	89.73	2,666.0	1,956.8	1,931.2	1,826.0	105.16	18.364			
12,600.0	9,734.0	12,647.2	9,734.0	53.6	54.4	89.73	2,766.0	1,956.2	1,931.2	1,823.9	107.37	17.987			
12,700.0	9,734.0	12,747.2	9,734.0	54.7	55.5	89.73	2,866.0	1,955.5	1,931.3	1,821.7	109.60	17.620			
12,800.0	9,734.0	12,847.2	9,734.0	55.9	56.6	89.73	2,966.0	1,954.8	1,931.3	1,819.4	111.87	17.264			
12,900.0	9,734.0	12,947.2	9,734.0	57.0	57.7	89.73	3,066.0	1,954.2	1,931.3	1,817.2	114.16	16.917			
13,000.0	9,734.0	13,047.2	9,734.0	58.2	58.9	89.73	3,166.0	1,953.5	1,931.4	1,814.9	116.49	16.580			
13,100.0	9,734.0	13,147.2	9,734.0	59.4	60.0	89.73	3,266.0	1,952.9	1,931.4	1,812.6	118.83	16.253			
13,200.0	9,734.0	13,247.2	9,734.0	60.6	61.2	89.73	3,365.9	1,952.2	1,931.4	1,810.2	121.20	15.936			
13,300.0	9,734.0	13,347.2	9,734.0	61.8	62.4	89.73	3,465.9	1,951.5	1,931.5	1,807.9	123.59	15.628			
13,400.0	9,734.0	13,447.2	9,734.0	63.0	63.6	89.73	3,565.9	1,950.9	1,931.5	1,805.5	126.01	15.328			
13,500.0	9,734.0	13,547.2	9,734.0	64.2	64.8	89.73	3,665.9	1,950.2	1,931.5	1,803.1	128.44	15.038			
13,600.0	9,734.0	13,647.2	9,734.0	65.4	66.0	89.73	3,765.9	1,949.6	1,931.6	1,800.7	130.89	14.757			
13,700.0	9,734.0	13,747.2	9,734.0	66.7	67.2	89.73	3,865.9	1,948.9	1,931.6	1,798.2	133.36	14.484			
13,800.0	9,734.0	13,847.2	9,734.0	67.9	68.4	89.73	3,965.9	1,948.2	1,931.6	1,795.8	135.85	14.219			
13,900.0	9,734.0	13,947.2	9,734.0	69.2	69.7	89.73	4,065.9	1,947.6	1,931.7	1,793.3	138.35	13.962			
14,000.0	9,734.0	14,047.2	9,734.0	70.4	70.9	89.73	4,165.9	1,946.9	1,931.7	1,790.8	140.87	13.713			
14,100.0	9,734.0	14,147.2	9,734.0	71.7	72.2	89.73	4,265.9	1,946.2	1,931.7	1,788.3	143.40	13.471			
14,200.0	9,734.0	14,247.2	9,734.0	73.0	73.4	89.73	4,365.9	1,945.6	1,931.8	1,785.8	145.95	13.236			
14,300.0	9,734.0	14,347.2	9,734.0	74.3	74.7	89.73	4,465.9	1,944.9	1,931.8	1,783.3	148.51	13.008			
14,400.0	9,734.0	14,447.2	9,734.0	75.6	76.0	89.73	4,565.9	1,944.3	1,931.8	1,780.7	151.08	12.787			
14,500.0	9,734.0	14,547.2	9,734.0	76.9	77.2	89.73	4,665.9	1,943.6	1,931.9	1,778.2	153.66	12.573			
14,600.0	9,734.0	14,647.2	9,734.0	78.2	78.5	89.73	4,765.9	1,942.9	1,931.9	1,775.6	156.25	12.364			
14,700.0	9,734.0	14,747.2	9,734.0	79.5	79.8	89.73	4,865.9	1,942.3	1,931.9	1,773.1	158.85	12.162			
14,800.0	9,734.0	14,847.2	9,734.0	80.8	81.1	89.73	4,965.9	1,941.6	1,932.0	1,770.5	161.47	11.965			
14,900.0	9,734.0	14,947.2	9,734.0	82.1	82.4	89.73	5,065.9	1,941.0	1,932.0	1,767.9	164.09	11.774			
15,000.0	9,734.0	15,047.2	9,734.0	83.4	83.7	89.73	5,165.9	1,940.3	1,932.0	1,765.3	166.72	11.588			
15,100.0	9,734.0	15,147.2	9,734.0	84.7	85.0	89.73	5,265.9	1,939.6	1,932.0	1,762.7	169.36	11.408			
15,200.0	9,734.0	15,247.2	9,734.0	86.1	86.4	89.73	5,365.9	1,939.0	1,932.1	1,760.1	172.01	11.232			
15,300.0	9,734.0	15,347.2	9,734.0	87.4	87.7	89.73	5,465.9	1,938.3	1,932.1	1,757.4	174.67	11.062			
15,400.0	9,734.0	15,447.2	9,734.0	88.7	89.0	89.73	5,565.9	1,937.6	1,932.1	1,754.8	177.33	10.896			
15,500.0	9,734.0	15,547.2	9,734.0	90.1	90.3	89.73	5,665.9	1,937.0	1,932.2	1,752.2	180.00	10.734			
15,600.0	9,734.0	15,647.2	9,734.0	91.4	91.7	89.73	5,765.9	1,936.3	1,932.2	1,749.5	182.68	10.577			
15,700.0	9,734.0	15,747.2	9,734.0	92.8	93.0	89.73	5,865.9	1,935.7	1,932.2	1,746.9	185.36	10.424			
15,800.0	9,734.0	15,847.2	9,734.0	94.1	94.3	89.73	5,965.9	1,935.0	1,932.3	1,744.2	188.05	10.275			
15,900.0	9,734.0	15,947.2	9,734.0	95.5	95.7	89.73	6,065.9	1,934.3	1,932.3	1,741.6	190.75	10.130			
16,000.0	9,734.0	16,047.2	9,734.0	96.8	97.0	89.73	6,165.9	1,933.7	1,932.3	1,738.9	193.45	9.989			
16,100.0	9,734.0	16,147.2	9,734.0	98.2	98.4	89.73	6,265.9	1,933.0	1,932.4	1,736.2	196.16	9.851			
16,200.0	9,734.0	16,247.2	9,734.0	99.5	99.7	89.73	6,365.9	1,932.4	1,932.4	1,733.5	198.87	9.717			
16,300.0	9,734.0	16,347.2	9,734.0	100.9	101.1	89.73	6,465.9	1,931.7	1,932.4	1,730.8	201.59	9.586			
16,400.0	9,734.0	16,447.2	9,734.0	102.3	102.4	89.73	6,565.9	1,931.0	1,932.5	1,728.2	204.31	9.458			
16,500.0	9,734.0	16,547.2	9,734.0	103.6	103.8	89.73	6,665.9	1,930.4	1,932.5	1,725.5	207.04	9.334			
16,600.0	9,734.0	16,647.2	9,734.0	105.0	105.1	89.73	6,765.9	1,929.7	1,932.5	1,722.8	209.77	9.213			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 514H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,700.0	9,734.0	16,747.2	9,734.0	106.4	106.5	89.73	6,865.9	1,929.1	1,932.6	1,720.1	212.51	9.094	
16,800.0	9,734.0	16,847.2	9,734.0	107.7	107.9	89.73	6,965.9	1,928.4	1,932.6	1,717.3	215.25	8.978	
16,900.0	9,734.0	16,947.2	9,734.0	109.1	109.2	89.73	7,065.9	1,927.7	1,932.6	1,714.6	217.99	8.866	
17,000.0	9,734.0	17,047.2	9,734.0	110.5	110.6	89.73	7,165.9	1,927.1	1,932.7	1,711.9	220.74	8.755	
17,100.0	9,734.0	17,147.2	9,734.0	111.9	112.0	89.73	7,265.9	1,926.4	1,932.7	1,709.2	223.49	8.648	
17,200.0	9,734.0	17,247.2	9,734.0	113.2	113.3	89.73	7,365.9	1,925.7	1,932.7	1,706.5	226.25	8.542	
17,300.0	9,734.0	17,347.2	9,734.0	114.6	114.7	89.73	7,465.9	1,925.1	1,932.8	1,703.7	229.01	8.440	
17,400.0	9,734.0	17,447.2	9,734.0	116.0	116.1	89.73	7,565.9	1,924.4	1,932.8	1,701.0	231.77	8.339	
17,500.0	9,734.0	17,547.2	9,734.0	117.4	117.5	89.73	7,665.9	1,923.8	1,932.8	1,698.3	234.53	8.241	
17,600.0	9,734.0	17,647.2	9,734.0	118.8	118.8	89.73	7,765.9	1,923.1	1,932.9	1,695.5	237.30	8.145	
17,700.0	9,734.0	17,747.2	9,734.0	120.2	120.2	89.73	7,865.8	1,922.4	1,932.9	1,692.8	240.07	8.051	
17,800.0	9,734.0	17,847.2	9,734.0	121.6	121.6	89.73	7,965.8	1,921.8	1,932.9	1,690.1	242.85	7.959	
17,900.0	9,734.0	17,947.2	9,734.0	122.9	123.0	89.73	8,065.8	1,921.1	1,932.9	1,687.3	245.63	7.869	
18,000.0	9,734.0	18,047.2	9,734.0	124.3	124.4	89.73	8,165.8	1,920.5	1,933.0	1,684.6	248.41	7.782	
18,100.0	9,734.0	18,147.2	9,734.0	125.7	125.8	89.73	8,265.8	1,919.8	1,933.0	1,681.8	251.19	7.695	
18,200.0	9,734.0	18,247.2	9,734.0	127.1	127.1	89.73	8,365.8	1,919.1	1,933.0	1,679.1	253.97	7.611	
18,300.0	9,734.0	18,347.2	9,734.0	128.5	128.5	89.73	8,465.8	1,918.5	1,933.1	1,676.3	256.76	7.529	
18,400.0	9,734.0	18,447.2	9,734.0	129.9	129.9	89.73	8,565.8	1,917.8	1,933.1	1,673.6	259.55	7.448	
18,500.0	9,734.0	18,547.2	9,734.0	131.3	131.3	89.73	8,665.8	1,917.1	1,933.1	1,670.8	262.34	7.369	
18,600.0	9,734.0	18,647.2	9,734.0	132.7	132.7	89.73	8,765.8	1,916.5	1,933.2	1,668.0	265.14	7.291	
18,700.0	9,734.0	18,747.2	9,734.0	134.1	134.1	89.73	8,865.8	1,915.8	1,933.2	1,665.3	267.93	7.215	
18,800.0	9,734.0	18,847.2	9,734.0	135.5	135.5	89.73	8,965.8	1,915.2	1,933.2	1,662.5	270.73	7.141	
18,900.0	9,734.0	18,947.2	9,734.0	136.9	136.9	89.73	9,065.8	1,914.5	1,933.3	1,659.7	273.53	7.068	
19,000.0	9,734.0	19,047.2	9,734.0	138.3	138.3	89.73	9,165.8	1,913.8	1,933.3	1,657.0	276.33	6.996	
19,100.0	9,734.0	19,147.2	9,734.0	139.7	139.7	89.73	9,265.8	1,913.2	1,933.3	1,654.2	279.14	6.926	
19,200.0	9,734.0	19,247.2	9,734.0	141.1	141.1	89.73	9,365.8	1,912.5	1,933.4	1,651.4	281.95	6.857	
19,300.0	9,734.0	19,347.2	9,734.0	142.5	142.5	89.73	9,465.8	1,911.9	1,933.4	1,648.6	284.75	6.790	
19,400.0	9,734.0	19,447.2	9,734.0	143.9	143.9	89.73	9,565.8	1,911.2	1,933.4	1,645.9	287.56	6.724	
19,500.0	9,734.0	19,547.2	9,734.0	145.3	145.3	89.73	9,665.8	1,910.5	1,933.5	1,643.1	290.37	6.659	
19,600.0	9,734.0	19,647.2	9,734.0	146.7	146.7	89.73	9,765.8	1,909.9	1,933.5	1,640.3	293.19	6.595	
19,700.0	9,734.0	19,747.2	9,734.0	148.2	148.1	89.73	9,865.8	1,909.2	1,933.5	1,637.5	296.00	6.532	
19,800.0	9,734.0	19,847.2	9,734.0	149.6	149.5	89.73	9,965.8	1,908.5	1,933.6	1,634.7	298.82	6.471	
19,900.0	9,734.0	19,947.2	9,734.0	151.0	150.9	89.73	10,065.8	1,907.9	1,933.6	1,632.0	301.63	6.410	
19,968.0	9,734.0	20,015.1	9,734.0	151.8	151.9	89.73	10,133.8	1,907.4	1,933.6	1,630.2	303.40	6.373 ES, SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 604H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
7,000.0	6,982.9	7,296.8	7,258.5	24.6	27.1	88.46	-241.3	2,253.0	2,193.9	2,143.5	50.33	43.593	
7,100.0	7,082.9	7,396.0	7,357.0	24.9	27.5	88.51	-243.2	2,240.9	2,181.7	2,130.7	51.03	42.749	
7,200.0	7,182.9	7,495.3	7,455.5	25.3	27.9	88.55	-245.1	2,228.9	2,169.5	2,117.8	51.74	41.928	
7,300.0	7,282.9	7,594.5	7,554.0	25.6	28.3	88.59	-247.1	2,216.9	2,157.4	2,104.9	52.45	41.129	
7,400.0	7,382.9	7,693.8	7,652.5	25.9	28.7	88.64	-249.0	2,204.9	2,145.2	2,092.0	53.16	40.351	
7,500.0	7,482.9	7,793.0	7,751.0	26.3	29.0	88.68	-250.9	2,192.8	2,133.0	2,079.2	53.87	39.593	
7,600.0	7,582.9	7,892.2	7,849.4	26.6	29.4	88.73	-252.9	2,180.8	2,120.9	2,066.3	54.58	38.855	
7,700.0	7,682.9	7,991.5	7,947.9	27.0	29.8	88.77	-254.8	2,168.8	2,108.7	2,053.4	55.30	38.135	
7,800.0	7,782.9	8,090.7	8,046.4	27.3	30.2	88.82	-256.8	2,156.7	2,096.5	2,040.5	56.01	37.433	
7,900.0	7,882.9	8,190.0	8,144.9	27.7	30.6	88.87	-258.7	2,144.7	2,084.4	2,027.7	56.72	36.749	
8,000.0	7,982.9	8,289.2	8,243.4	28.0	31.0	88.91	-260.6	2,132.7	2,072.2	2,014.8	57.43	36.082	
8,100.0	8,082.9	8,388.5	8,341.9	28.4	31.4	88.96	-262.6	2,120.7	2,060.1	2,001.9	58.14	35.430	
8,200.0	8,182.9	8,487.7	8,440.4	28.7	31.8	89.01	-264.5	2,108.6	2,047.9	1,989.1	58.86	34.795	
8,300.0	8,282.9	8,587.0	8,538.9	29.1	32.2	89.06	-266.4	2,096.6	2,035.8	1,976.2	59.57	34.174	
8,400.0	8,382.9	8,686.2	8,637.4	29.4	32.6	89.11	-268.4	2,084.6	2,023.6	1,963.3	60.28	33.568	
8,500.0	8,482.9	8,785.4	8,735.9	29.8	33.0	89.16	-270.3	2,072.5	2,011.5	1,950.5	61.00	32.976	
8,600.0	8,582.9	8,884.7	8,834.4	30.1	33.4	89.21	-272.3	2,060.5	1,999.3	1,937.6	61.71	32.397	
8,700.0	8,682.9	8,983.9	8,932.9	30.5	33.7	89.26	-274.2	2,048.5	1,987.2	1,924.7	62.43	31.832	
8,800.0	8,782.9	9,083.2	9,031.4	30.8	34.1	89.31	-276.1	2,036.5	1,975.0	1,911.9	63.14	31.279	
8,900.0	8,882.9	9,182.4	9,129.9	31.2	34.5	89.37	-278.1	2,024.4	1,962.9	1,899.0	63.86	30.738	
9,000.0	8,982.9	9,281.7	9,228.3	31.5	34.9	89.42	-280.0	2,012.4	1,950.7	1,886.2	64.57	30.210	
9,100.0	9,082.9	9,380.9	9,326.8	31.9	35.3	89.47	-281.9	2,000.4	1,938.6	1,873.3	65.29	29.693	
9,200.0	9,182.9	9,449.1	9,394.6	32.2	35.6	89.51	-283.2	1,992.5	1,927.1	1,861.1	65.94	29.223	
9,300.0	9,282.9	9,500.0	9,445.2	32.6	35.8	93.30	-284.0	1,987.6	1,917.6	1,851.1	66.54	28.819	
9,400.0	9,381.4	9,568.1	9,513.1	32.9	36.0	94.40	-284.8	1,982.4	1,911.2	1,844.0	67.14	28.465	
9,500.0	9,474.5	9,624.1	9,569.0	33.2	36.2	95.31	-285.3	1,979.3	1,908.6	1,841.0	67.66	28.211	
9,506.5	9,480.2	9,627.5	9,572.4	33.2	36.2	95.36	-285.4	1,979.2	1,908.6	1,840.9	67.69	28.199 CC	
9,600.0	9,558.1	9,674.4	9,619.3	33.4	36.4	95.88	-285.6	1,977.5	1,910.8	1,842.7	68.10	28.057	
9,700.0	9,628.4	9,716.9	9,661.8	33.7	36.6	95.87	-285.8	1,976.6	1,918.4	1,850.0	68.49	28.010	
9,800.0	9,682.6	9,755.1	9,700.0	33.9	36.7	95.19	-285.8	1,976.3	1,932.1	1,863.2	68.85	28.061	
9,900.0	9,718.1	9,781.8	9,726.7	34.0	36.8	93.53	-285.8	1,976.3	1,951.8	1,882.6	69.17	28.219	
10,000.0	9,733.4	9,797.1	9,742.0	34.2	36.8	90.83	-285.8	1,976.3	1,977.3	1,907.8	69.44	28.472	
10,100.0	9,734.0	9,797.7	9,742.6	34.4	36.8	90.00	-285.8	1,976.3	2,006.7	1,937.0	69.68	28.800	
10,200.0	9,734.0	9,797.7	9,742.6	34.7	36.8	90.00	-285.8	1,976.3	2,037.5	1,967.6	69.95	29.128	
10,300.0	9,734.0	9,797.7	9,742.6	35.0	36.8	90.00	-285.8	1,976.3	2,071.7	2,001.5	70.27	29.484	
10,400.0	9,734.0	11,231.0	10,529.0	35.3	40.0	112.16	566.0	1,970.7	2,084.6	2,012.8	71.71	29.069	
10,500.0	9,734.0	11,331.0	10,529.0	35.8	40.3	112.16	666.0	1,970.1	2,084.6	2,012.0	72.54	28.736	
10,600.0	9,734.0	11,431.0	10,529.0	36.2	40.8	112.16	766.0	1,969.4	2,084.6	2,011.1	73.47	28.373	
10,700.0	9,734.0	11,531.0	10,529.0	36.8	41.3	112.16	866.0	1,968.7	2,084.6	2,010.2	74.49	27.987	
10,800.0	9,734.0	11,631.0	10,529.0	37.3	41.8	112.16	966.0	1,968.1	2,084.7	2,009.1	75.59	27.578	
10,900.0	9,734.0	11,731.0	10,529.0	37.9	42.4	112.16	1,066.0	1,967.4	2,084.7	2,007.9	76.78	27.153	
11,000.0	9,734.0	11,831.0	10,529.0	38.6	43.0	112.16	1,166.0	1,966.7	2,084.7	2,006.7	78.04	26.713	
11,100.0	9,734.0	11,931.0	10,529.0	39.3	43.7	112.16	1,266.0	1,966.1	2,084.8	2,005.4	79.38	26.262	
11,200.0	9,734.0	12,031.0	10,529.0	40.1	44.4	112.16	1,366.0	1,965.4	2,084.8	2,004.0	80.79	25.804	
11,300.0	9,734.0	12,131.0	10,529.0	40.8	45.2	112.16	1,466.0	1,964.8	2,084.8	2,002.5	82.27	25.341	
11,400.0	9,734.0	12,231.0	10,529.0	41.7	45.9	112.16	1,566.0	1,964.1	2,084.9	2,001.0	83.82	24.874	
11,500.0	9,734.0	12,331.0	10,529.0	42.5	46.8	112.16	1,666.0	1,963.4	2,084.9	1,999.5	85.42	24.408	
11,600.0	9,734.0	12,431.0	10,529.0	43.4	47.6	112.16	1,766.0	1,962.8	2,084.9	1,997.8	87.08	23.943	
11,700.0	9,734.0	12,531.0	10,529.0	44.3	48.5	112.16	1,866.0	1,962.1	2,084.9	1,996.1	88.79	23.481	
11,800.0	9,734.0	12,631.0	10,529.0	45.3	49.4	112.16	1,966.0	1,961.5	2,085.0	1,994.4	90.56	23.023	
11,900.0	9,734.0	12,731.0	10,529.0	46.2	50.3	112.16	2,066.0	1,960.8	2,085.0	1,992.6	92.37	22.572	
12,000.0	9,734.0	12,831.0	10,529.0	47.2	51.2	112.16	2,166.0	1,960.1	2,085.0	1,990.8	94.23	22.127	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 604H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM							Rule Assigned:					Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,100.0	9,734.0	12,931.0	10,529.0	48.2	52.2	112.16	2,266.0	1,959.5	2,085.1	1,988.9	96.13	21.689	
12,200.0	9,734.0	13,031.0	10,529.0	49.3	53.2	112.16	2,366.0	1,958.8	2,085.1	1,987.0	98.07	21.260	
12,300.0	9,734.0	13,131.0	10,529.0	50.3	54.2	112.16	2,466.0	1,958.2	2,085.1	1,985.1	100.05	20.840	
12,400.0	9,734.0	13,231.0	10,529.0	51.4	55.2	112.16	2,566.0	1,957.5	2,085.1	1,983.1	102.07	20.429	
12,500.0	9,734.0	13,331.0	10,529.0	52.5	56.3	112.16	2,666.0	1,956.8	2,085.2	1,981.1	104.11	20.028	
12,600.0	9,734.0	13,431.0	10,529.0	53.6	57.3	112.16	2,766.0	1,956.2	2,085.2	1,979.0	106.19	19.636	
12,700.0	9,734.0	13,531.0	10,529.0	54.7	58.4	112.16	2,866.0	1,955.5	2,085.2	1,976.9	108.30	19.254	
12,800.0	9,734.0	13,631.0	10,529.0	55.9	59.5	112.16	2,966.0	1,954.8	2,085.3	1,974.8	110.44	18.882	
12,900.0	9,734.0	13,731.0	10,529.0	57.0	60.6	112.16	3,066.0	1,954.2	2,085.3	1,972.7	112.60	18.519	
13,000.0	9,734.0	13,831.0	10,529.0	58.2	61.7	112.16	3,166.0	1,953.5	2,085.3	1,970.5	114.79	18.166	
13,100.0	9,734.0	13,931.0	10,529.0	59.4	62.9	112.16	3,266.0	1,952.9	2,085.4	1,968.4	117.00	17.823	
13,200.0	9,734.0	14,031.0	10,529.0	60.6	64.0	112.15	3,365.9	1,952.2	2,085.4	1,966.2	119.23	17.490	
13,300.0	9,734.0	14,131.0	10,529.0	61.8	65.2	112.15	3,465.9	1,951.5	2,085.4	1,963.9	121.49	17.165	
13,400.0	9,734.0	14,231.0	10,529.0	63.0	66.4	112.15	3,565.9	1,950.9	2,085.4	1,961.7	123.76	16.850	
13,500.0	9,734.0	14,331.0	10,529.0	64.2	67.6	112.15	3,665.9	1,950.2	2,085.5	1,959.4	126.06	16.544	
13,600.0	9,734.0	14,431.0	10,529.0	65.4	68.8	112.15	3,765.9	1,949.6	2,085.5	1,957.1	128.37	16.246	
13,700.0	9,734.0	14,531.0	10,529.0	66.7	70.0	112.15	3,865.9	1,948.9	2,085.5	1,954.8	130.70	15.957	
13,800.0	9,734.0	14,631.0	10,529.0	67.9	71.2	112.15	3,965.9	1,948.2	2,085.6	1,952.5	133.04	15.676	
13,900.0	9,734.0	14,731.0	10,529.0	69.2	72.4	112.15	4,065.9	1,947.6	2,085.6	1,950.2	135.40	15.404	
14,000.0	9,734.0	14,831.0	10,529.0	70.4	73.6	112.15	4,165.9	1,946.9	2,085.6	1,947.9	137.77	15.138	
14,100.0	9,734.0	14,931.0	10,529.0	71.7	74.9	112.15	4,265.9	1,946.2	2,085.7	1,945.5	140.16	14.881	
14,200.0	9,734.0	15,031.0	10,529.0	73.0	76.1	112.15	4,365.9	1,945.6	2,085.7	1,943.1	142.56	14.631	
14,300.0	9,734.0	15,131.0	10,529.0	74.3	77.4	112.15	4,465.9	1,944.9	2,085.7	1,940.7	144.97	14.387	
14,400.0	9,734.0	15,231.0	10,529.0	75.6	78.6	112.15	4,565.9	1,944.3	2,085.7	1,938.3	147.39	14.151	
14,500.0	9,734.0	15,331.0	10,529.0	76.9	79.9	112.15	4,665.9	1,943.6	2,085.8	1,935.9	149.82	13.921	
14,600.0	9,734.0	15,431.0	10,529.0	78.2	81.1	112.15	4,765.9	1,942.9	2,085.8	1,933.5	152.27	13.698	
14,700.0	9,734.0	15,531.0	10,529.0	79.5	82.4	112.15	4,865.9	1,942.3	2,085.8	1,931.1	154.72	13.481	
14,800.0	9,734.0	15,631.0	10,529.0	80.8	83.7	112.15	4,965.9	1,941.6	2,085.9	1,928.7	157.19	13.270	
14,900.0	9,734.0	15,731.0	10,529.0	82.1	85.0	112.15	5,065.9	1,941.0	2,085.9	1,926.2	159.66	13.064	
15,000.0	9,734.0	15,831.0	10,529.0	83.4	86.3	112.15	5,165.9	1,940.3	2,085.9	1,923.8	162.15	12.865	
15,100.0	9,734.0	15,931.0	10,529.0	84.7	87.6	112.15	5,265.9	1,939.6	2,085.9	1,921.3	164.64	12.670	
15,200.0	9,734.0	16,031.0	10,529.0	86.1	88.9	112.15	5,365.9	1,939.0	2,086.0	1,918.8	167.13	12.481	
15,300.0	9,734.0	16,131.0	10,529.0	87.4	90.2	112.15	5,465.9	1,938.3	2,086.0	1,916.4	169.64	12.297	
15,400.0	9,734.0	16,231.0	10,529.0	88.7	91.5	112.15	5,565.9	1,937.6	2,086.0	1,913.9	172.15	12.117	
15,500.0	9,734.0	16,331.0	10,529.0	90.1	92.8	112.15	5,665.9	1,937.0	2,086.1	1,911.4	174.68	11.943	
15,600.0	9,734.0	16,431.0	10,529.0	91.4	94.1	112.15	5,765.9	1,936.3	2,086.1	1,908.9	177.20	11.772	
15,700.0	9,734.0	16,531.0	10,529.0	92.8	95.5	112.15	5,865.9	1,935.7	2,086.1	1,906.4	179.74	11.607	
15,800.0	9,734.0	16,631.0	10,529.0	94.1	96.8	112.15	5,965.9	1,935.0	2,086.2	1,903.9	182.28	11.445	
15,900.0	9,734.0	16,731.0	10,529.0	95.5	98.1	112.15	6,065.9	1,934.3	2,086.2	1,901.4	184.82	11.288	
16,000.0	9,734.0	16,831.0	10,529.0	96.8	99.4	112.15	6,165.9	1,933.7	2,086.2	1,898.8	187.37	11.134	
16,100.0	9,734.0	16,931.0	10,529.0	98.2	100.8	112.15	6,265.9	1,933.0	2,086.2	1,896.3	189.93	10.984	
16,200.0	9,734.0	17,031.0	10,529.0	99.5	102.1	112.14	6,365.9	1,932.4	2,086.3	1,893.8	192.49	10.838	
16,300.0	9,734.0	17,131.0	10,529.0	100.9	103.5	112.14	6,465.9	1,931.7	2,086.3	1,891.2	195.06	10.696	
16,400.0	9,734.0	17,231.0	10,529.0	102.3	104.8	112.14	6,565.9	1,931.0	2,086.3	1,888.7	197.63	10.557	
16,500.0	9,734.0	17,331.0	10,529.0	103.6	106.2	112.14	6,665.9	1,930.4	2,086.4	1,886.2	200.21	10.421	
16,600.0	9,734.0	17,431.0	10,529.0	105.0	107.5	112.14	6,765.9	1,929.7	2,086.4	1,883.6	202.79	10.289	
16,700.0	9,734.0	17,531.0	10,529.0	106.4	108.9	112.14	6,865.9	1,929.1	2,086.4	1,881.1	205.37	10.159	
16,800.0	9,734.0	17,631.0	10,529.0	107.7	110.2	112.14	6,965.9	1,928.4	2,086.5	1,878.5	207.96	10.033	
16,900.0	9,734.0	17,731.0	10,529.0	109.1	111.6	112.14	7,065.9	1,927.7	2,086.5	1,875.9	210.55	9.910	
17,000.0	9,734.0	17,831.0	10,529.0	110.5	112.9	112.14	7,165.9	1,927.1	2,086.5	1,873.4	213.15	9.789	
17,100.0	9,734.0	17,931.0	10,529.0	111.9	114.3	112.14	7,265.9	1,926.4	2,086.5	1,870.8	215.75	9.671	
17,200.0	9,734.0	18,031.0	10,529.0	113.2	115.6	112.14	7,365.9	1,925.7	2,086.6	1,868.2	218.35	9.556	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 604H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,300.0	9,734.0	18,131.0	10,529.0	114.6	117.0	112.14	7,465.9	1,925.1	2,086.6	1,865.6	220.96	9.443	
17,400.0	9,734.0	18,231.0	10,529.0	116.0	118.4	112.14	7,565.9	1,924.4	2,086.6	1,863.1	223.57	9.333	
17,500.0	9,734.0	18,331.0	10,529.0	117.4	119.8	112.14	7,665.9	1,923.8	2,086.7	1,860.5	226.19	9.225	
17,600.0	9,734.0	18,431.0	10,529.0	118.8	121.1	112.14	7,765.9	1,923.1	2,086.7	1,857.9	228.80	9.120	
17,700.0	9,734.0	18,531.0	10,529.0	120.2	122.5	112.14	7,865.8	1,922.4	2,086.7	1,855.3	231.42	9.017	
17,800.0	9,734.0	18,631.0	10,529.0	121.6	123.9	112.14	7,965.8	1,921.8	2,086.7	1,852.7	234.05	8.916	
17,900.0	9,734.0	18,731.0	10,529.0	122.9	125.2	112.14	8,065.8	1,921.1	2,086.8	1,850.1	236.67	8.817	
18,000.0	9,734.0	18,831.0	10,529.0	124.3	126.6	112.14	8,165.8	1,920.5	2,086.8	1,847.5	239.30	8.720	
18,100.0	9,734.0	18,931.0	10,529.0	125.7	128.0	112.14	8,265.8	1,919.8	2,086.8	1,844.9	241.93	8.626	
18,200.0	9,734.0	19,031.0	10,529.0	127.1	129.4	112.14	8,365.8	1,919.1	2,086.9	1,842.3	244.56	8.533	
18,300.0	9,734.0	19,131.0	10,529.0	128.5	130.8	112.14	8,465.8	1,918.5	2,086.9	1,839.7	247.20	8.442	
18,400.0	9,734.0	19,231.0	10,529.0	129.9	132.1	112.14	8,565.8	1,917.8	2,086.9	1,837.1	249.84	8.353	
18,500.0	9,734.0	19,331.0	10,529.0	131.3	133.5	112.14	8,665.8	1,917.1	2,087.0	1,834.5	252.48	8.266	
18,600.0	9,734.0	19,431.0	10,529.0	132.7	134.9	112.14	8,765.8	1,916.5	2,087.0	1,831.9	255.12	8.180	
18,700.0	9,734.0	19,531.0	10,529.0	134.1	136.3	112.14	8,865.8	1,915.8	2,087.0	1,829.2	257.77	8.097	
18,800.0	9,734.0	19,631.0	10,529.0	135.5	137.7	112.14	8,965.8	1,915.2	2,087.0	1,826.6	260.41	8.014	
18,900.0	9,734.0	19,731.0	10,529.0	136.9	139.1	112.14	9,065.8	1,914.5	2,087.1	1,824.0	263.06	7.934	
19,000.0	9,734.0	19,831.0	10,529.0	138.3	140.5	112.14	9,165.8	1,913.8	2,087.1	1,821.4	265.71	7.855	
19,100.0	9,734.0	19,931.0	10,529.0	139.7	141.9	112.13	9,265.8	1,913.2	2,087.1	1,818.8	268.37	7.777	
19,200.0	9,734.0	20,031.0	10,529.0	141.1	143.3	112.13	9,365.8	1,912.5	2,087.2	1,816.1	271.02	7.701	
19,300.0	9,734.0	20,131.0	10,529.0	142.5	144.7	112.13	9,465.8	1,911.9	2,087.2	1,813.5	273.68	7.626	
19,400.0	9,734.0	20,231.0	10,529.0	143.9	146.1	112.13	9,565.8	1,911.2	2,087.2	1,810.9	276.34	7.553	
19,500.0	9,734.0	20,331.0	10,529.0	145.3	147.4	112.13	9,665.8	1,910.5	2,087.3	1,808.3	279.00	7.481	
19,600.0	9,734.0	20,431.0	10,529.0	146.7	148.8	112.13	9,765.8	1,909.9	2,087.3	1,805.6	281.66	7.411	
19,700.0	9,734.0	20,531.0	10,529.0	148.2	150.2	112.13	9,865.8	1,909.2	2,087.3	1,803.0	284.32	7.341	
19,800.0	9,734.0	20,631.0	10,529.0	149.6	151.6	112.13	9,965.8	1,908.5	2,087.3	1,800.4	286.99	7.273	
19,900.0	9,734.0	20,731.0	10,529.0	151.0	153.0	112.13	10,065.8	1,907.9	2,087.4	1,797.7	289.65	7.206	
19,968.0	9,734.0	20,799.0	10,529.0	151.8	154.0	112.13	10,133.8	1,907.4	2,087.4	1,796.1	291.31	7.166 ES, SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - LONE WOLF 36 B2DA STATE COM 001H - OH - OH												Offset Site Error:	0.0 usft
Survey Program: 100-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,300.0	9,734.0	14,107.0	9,580.0	114.6	113.4	-81.72	9,048.0	-1,491.8	2,189.2	2,035.7	153.51	14.261	
17,400.0	9,734.0	14,107.0	9,580.0	116.0	113.4	-81.72	9,048.0	-1,491.8	2,116.9	1,962.9	153.99	13.747	
17,500.0	9,734.0	14,107.0	9,580.0	117.4	113.4	-81.72	9,048.0	-1,491.8	2,047.0	1,892.6	154.40	13.258	
17,600.0	9,734.0	14,107.0	9,580.0	118.8	113.4	-81.72	9,048.0	-1,491.8	1,979.7	1,825.0	154.71	12.797	
17,700.0	9,734.0	14,107.0	9,580.0	120.2	113.4	-81.72	9,048.0	-1,491.8	1,915.3	1,760.4	154.89	12.366	
17,800.0	9,734.0	14,107.0	9,580.0	121.6	113.4	-81.72	9,048.0	-1,491.8	1,854.0	1,699.1	154.92	11.968	
17,900.0	9,734.0	14,107.0	9,580.0	122.9	113.4	-81.72	9,048.0	-1,491.8	1,796.2	1,641.4	154.77	11.606	
18,000.0	9,734.0	14,107.0	9,580.0	124.3	113.4	-81.72	9,048.0	-1,491.8	1,742.2	1,587.8	154.42	11.282	
18,100.0	9,734.0	14,107.0	9,580.0	125.7	113.4	-81.72	9,048.0	-1,491.8	1,692.4	1,538.5	153.88	10.998	
18,200.0	9,734.0	14,107.0	9,580.0	127.1	113.4	-81.72	9,048.0	-1,491.8	1,647.2	1,494.0	153.16	10.755	
18,300.0	9,734.0	14,107.0	9,580.0	128.5	113.4	-81.72	9,048.0	-1,491.8	1,606.9	1,454.6	152.35	10.548	
18,400.0	9,734.0	14,107.0	9,580.0	129.9	113.4	-81.72	9,048.0	-1,491.8	1,572.0	1,420.3	151.64	10.367	
18,500.0	9,734.0	14,107.0	9,580.0	131.3	113.4	-81.72	9,048.0	-1,491.8	1,542.8	1,391.4	151.39	10.191	
18,600.0	9,734.0	14,107.0	9,580.0	132.7	113.4	-81.72	9,048.0	-1,491.8	1,519.6	1,367.4	152.17	9.986	
18,700.0	9,734.0	14,107.0	9,580.0	134.1	113.4	-81.72	9,048.0	-1,491.8	1,502.7	1,348.1	154.61	9.719	
18,800.0	9,734.0	14,107.0	9,580.0	135.5	113.4	-81.72	9,048.0	-1,491.8	1,492.3	1,333.5	158.84	9.395	
18,900.0	9,734.0	14,107.0	9,580.0	136.9	113.4	-81.72	9,048.0	-1,491.8	1,488.6	1,324.2	164.38	9.056	
18,905.1	9,734.0	14,107.0	9,580.0	137.0	113.4	-81.72	9,048.0	-1,491.8	1,488.6	1,323.9	164.69	9.039 CC	
19,000.0	9,734.0	14,107.0	9,580.0	138.3	113.4	-81.72	9,048.0	-1,491.8	1,491.6	1,321.1	170.52	8.748 ES	
19,100.0	9,734.0	14,107.0	9,580.0	139.7	113.4	-81.72	9,048.0	-1,491.8	1,501.3	1,324.6	176.68	8.497	
19,200.0	9,734.0	14,107.0	9,580.0	141.1	113.4	-81.72	9,048.0	-1,491.8	1,517.5	1,335.0	182.51	8.315	
19,300.0	9,734.0	14,107.0	9,580.0	142.5	113.4	-81.72	9,048.0	-1,491.8	1,540.1	1,352.3	187.78	8.201	
19,400.0	9,734.0	14,107.0	9,580.0	143.9	113.4	-81.72	9,048.0	-1,491.8	1,568.7	1,376.3	192.40	8.153 SF	
19,500.0	9,734.0	14,107.0	9,580.0	145.3	113.4	-81.72	9,048.0	-1,491.8	1,603.1	1,406.7	196.32	8.166	
19,600.0	9,734.0	14,107.0	9,580.0	146.7	113.4	-81.72	9,048.0	-1,491.8	1,642.8	1,443.2	199.56	8.232	
19,700.0	9,734.0	14,107.0	9,580.0	148.2	113.4	-81.72	9,048.0	-1,491.8	1,687.5	1,485.4	202.14	8.348	
19,800.0	9,734.0	14,107.0	9,580.0	149.6	113.4	-81.72	9,048.0	-1,491.8	1,736.9	1,532.7	204.13	8.509	
19,900.0	9,734.0	14,107.0	9,580.0	151.0	113.4	-81.72	9,048.0	-1,491.8	1,790.5	1,584.9	205.60	8.708	
19,968.0	9,734.0	14,107.0	9,580.0	151.8	113.4	-81.72	9,048.0	-1,491.8	1,829.1	1,622.3	206.74	8.847	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 304H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
16,800.0	9,734.0	8,575.0	8,466.7	107.7	32.3	-47.24	7,899.4	-1,439.1	2,167.8	2,062.9	104.85	20.675		
16,900.0	9,734.0	8,575.0	8,466.7	109.1	32.3	-47.24	7,899.4	-1,439.1	2,125.5	2,018.4	107.13	19.841		
17,000.0	9,734.0	8,575.0	8,466.7	110.5	32.3	-47.24	7,899.4	-1,439.1	2,087.3	1,977.9	109.41	19.078		
17,100.0	9,734.0	8,575.0	8,466.7	111.9	32.3	-47.24	7,899.4	-1,439.1	2,053.1	1,941.5	111.67	18.386		
17,200.0	9,734.0	8,575.0	8,466.7	113.2	32.3	-47.24	7,899.4	-1,439.1	2,023.4	1,909.5	113.88	17.767		
17,300.0	9,734.0	8,575.0	8,466.7	114.6	32.3	-47.24	7,899.4	-1,439.1	1,998.2	1,882.2	116.03	17.222		
17,400.0	9,734.0	8,575.0	8,466.7	116.0	32.3	-47.24	7,899.4	-1,439.1	1,977.8	1,859.7	118.08	16.749		
17,500.0	9,734.0	8,575.0	8,466.7	117.4	32.3	-47.24	7,899.4	-1,439.1	1,962.3	1,842.2	120.01	16.350		
17,600.0	9,734.0	8,575.0	8,466.7	118.8	32.3	-47.24	7,899.4	-1,439.1	1,951.7	1,829.9	121.80	16.024		
17,700.0	9,734.0	8,575.0	8,466.7	120.2	32.3	-47.24	7,899.4	-1,439.1	1,946.3	1,822.8	123.42	15.769		
17,756.2	9,734.0	8,575.0	8,466.7	120.9	32.3	-47.24	7,899.4	-1,439.1	1,945.5	1,821.2	124.25	15.657	CC	
17,800.0	9,734.0	8,575.0	8,466.7	121.6	32.3	-47.24	7,899.4	-1,439.1	1,945.9	1,821.1	124.86	15.585	ES	
17,900.0	9,734.0	8,575.0	8,466.7	122.9	32.3	-47.24	7,899.4	-1,439.1	1,950.8	1,824.7	126.10	15.470		
18,000.0	9,734.0	8,575.0	8,466.7	124.3	32.3	-47.24	7,899.4	-1,439.1	1,960.7	1,833.5	127.13	15.423	SF	
18,100.0	9,734.0	8,575.0	8,466.7	125.7	32.3	-47.24	7,899.4	-1,439.1	1,975.6	1,847.7	127.94	15.442		
18,200.0	9,734.0	8,575.0	8,466.7	127.1	32.3	-47.24	7,899.4	-1,439.1	1,995.4	1,866.9	128.54	15.524		
18,300.0	9,734.0	8,575.0	8,466.7	128.5	32.3	-47.24	7,899.4	-1,439.1	2,020.0	1,891.1	128.94	15.667		
18,400.0	9,734.0	8,575.0	8,466.7	129.9	32.3	-47.24	7,899.4	-1,439.1	2,049.2	1,920.1	129.13	15.869		
18,500.0	9,734.0	8,575.0	8,466.7	131.3	32.3	-47.24	7,899.4	-1,439.1	2,082.8	1,953.6	129.14	16.128		
18,600.0	9,734.0	8,575.0	8,466.7	132.7	32.3	-47.24	7,899.4	-1,439.1	2,120.6	1,991.6	128.99	16.440		
18,700.0	9,734.0	8,575.0	8,466.7	134.1	32.3	-47.24	7,899.4	-1,439.1	2,162.3	2,033.6	128.68	16.804		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 305H - OH - Plan 0.2												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,800.0	9,734.0	8,525.0	8,473.2	121.6	30.4	-47.48	8,955.3	-1,451.9	2,193.1	2,078.2	114.88	19.091	
17,900.0	9,734.0	8,525.0	8,473.2	122.9	30.4	-47.48	8,955.3	-1,451.9	2,148.8	2,031.5	117.27	18.323	
18,000.0	9,734.0	8,525.0	8,473.2	124.3	30.4	-47.48	8,955.3	-1,451.9	2,108.3	1,988.6	119.65	17.620	
18,100.0	9,734.0	8,525.0	8,473.2	125.7	30.4	-47.48	8,955.3	-1,451.9	2,071.8	1,949.8	121.99	16.984	
18,200.0	9,734.0	8,525.0	8,473.2	127.1	30.4	-47.48	8,955.3	-1,451.9	2,039.6	1,915.3	124.26	16.414	
18,300.0	9,734.0	8,525.0	8,473.2	128.5	30.4	-47.48	8,955.3	-1,451.9	2,011.8	1,885.4	126.43	15.912	
18,400.0	9,734.0	8,525.0	8,473.2	129.9	30.4	-47.48	8,955.3	-1,451.9	1,988.7	1,860.2	128.49	15.477	
18,500.0	9,734.0	8,525.0	8,473.2	131.3	30.4	-47.48	8,955.3	-1,451.9	1,970.4	1,840.0	130.41	15.110	
18,600.0	9,734.0	8,525.0	8,473.2	132.7	30.4	-47.48	8,955.3	-1,451.9	1,957.1	1,824.9	132.15	14.809	
18,700.0	9,734.0	8,525.0	8,473.2	134.1	30.4	-47.48	8,955.3	-1,451.9	1,948.8	1,815.1	133.71	14.574	
18,800.0	9,734.0	8,525.0	8,473.2	135.5	30.4	-47.48	8,955.3	-1,451.9	1,945.6	1,810.5	135.07	14.404	
18,812.2	9,734.0	8,525.0	8,473.2	135.7	30.4	-47.48	8,955.3	-1,451.9	1,945.5	1,810.3	135.22	14.388	CC, ES
18,900.0	9,734.0	8,525.0	8,473.2	136.9	30.4	-47.48	8,955.3	-1,451.9	1,947.5	1,811.3	136.21	14.298	
19,000.0	9,734.0	8,525.0	8,473.2	138.3	30.4	-47.48	8,955.3	-1,451.9	1,954.6	1,817.5	137.12	14.255	SF
19,100.0	9,734.0	8,525.0	8,473.2	139.7	30.4	-47.48	8,955.3	-1,451.9	1,966.7	1,828.9	137.80	14.272	
19,200.0	9,734.0	8,525.0	8,473.2	141.1	30.4	-47.48	8,955.3	-1,451.9	1,983.8	1,845.5	138.26	14.349	
19,300.0	9,734.0	8,525.0	8,473.2	142.5	30.4	-47.48	8,955.3	-1,451.9	2,005.8	1,867.3	138.50	14.482	
19,400.0	9,734.0	8,525.0	8,473.2	143.9	30.4	-47.48	8,955.3	-1,451.9	2,032.4	1,893.9	138.52	14.672	
19,500.0	9,734.0	8,525.0	8,473.2	145.3	30.4	-47.48	8,955.3	-1,451.9	2,063.5	1,925.2	138.36	14.914	
19,600.0	9,734.0	8,525.0	8,473.2	146.7	30.4	-47.48	8,955.3	-1,451.9	2,099.0	1,961.0	138.02	15.208	
19,700.0	9,734.0	8,525.0	8,473.2	148.2	30.4	-47.48	8,955.3	-1,451.9	2,138.5	2,001.0	137.52	15.551	
19,800.0	9,734.0	8,525.0	8,473.2	149.6	30.4	-47.48	8,955.3	-1,451.9	2,181.9	2,045.0	136.88	15.941	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 306H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
18,800.0	9,734.0	8,625.0	8,471.6	135.5	33.7	-47.41	9,879.3	-1,456.4	2,158.6	2,029.0	129.57	16.660		
18,900.0	9,734.0	8,625.0	8,471.6	136.9	33.7	-47.41	9,879.3	-1,456.4	2,117.1	1,985.0	132.14	16.022		
19,000.0	9,734.0	8,625.0	8,471.6	138.3	33.7	-47.41	9,879.3	-1,456.4	2,079.7	1,945.0	134.65	15.445		
19,100.0	9,734.0	8,625.0	8,471.6	139.7	33.7	-47.41	9,879.3	-1,456.4	2,046.4	1,909.4	137.06	14.931		
19,200.0	9,734.0	8,625.0	8,471.6	141.1	33.7	-47.41	9,879.3	-1,456.4	2,017.6	1,878.2	139.34	14.479		
19,300.0	9,734.0	8,625.0	8,471.6	142.5	33.7	-47.41	9,879.3	-1,456.4	1,993.3	1,851.8	141.48	14.089		
19,400.0	9,734.0	8,625.0	8,471.6	143.9	33.7	-47.41	9,879.3	-1,456.4	1,973.8	1,830.4	143.43	13.762		
19,500.0	9,734.0	8,625.0	8,471.6	145.3	33.7	-47.41	9,879.3	-1,456.4	1,959.3	1,814.1	145.17	13.496		
19,600.0	9,734.0	8,625.0	8,471.6	146.7	33.7	-47.41	9,879.3	-1,456.4	1,949.8	1,803.1	146.69	13.292		
19,700.0	9,734.0	8,625.0	8,471.6	148.2	33.7	-47.41	9,879.3	-1,456.4	1,945.3	1,797.4	147.96	13.148		
19,736.3	9,734.0	8,625.0	8,471.6	148.7	33.7	-47.41	9,879.3	-1,456.4	1,945.0	1,796.6	148.35	13.111	CC, ES	
19,800.0	9,734.0	8,625.0	8,471.6	149.6	33.7	-47.41	9,879.3	-1,456.4	1,946.0	1,797.1	148.96	13.064		
19,900.0	9,734.0	8,625.0	8,471.6	151.0	33.7	-47.41	9,879.3	-1,456.4	1,951.9	1,802.2	149.71	13.038	SF	
19,968.0	9,734.0	8,625.0	8,471.6	151.8	33.7	-47.41	9,879.3	-1,456.4	1,958.7	1,809.0	149.76	13.079		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 504H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,400.0	9,734.0	9,275.0	9,235.6	102.3	33.7	-67.65	8,119.7	-1,351.7	2,140.3	2,038.9	101.42	21.105	
16,500.0	9,734.0	9,275.0	9,235.6	103.6	33.7	-67.65	8,119.7	-1,351.7	2,067.8	1,963.7	104.10	19.864	
16,600.0	9,734.0	9,275.0	9,235.6	105.0	33.7	-67.65	8,119.7	-1,351.7	1,997.7	1,890.7	106.94	18.681	
16,700.0	9,734.0	9,275.0	9,235.6	106.4	33.7	-67.65	8,119.7	-1,351.7	1,930.1	1,820.2	109.93	17.557	
16,800.0	9,734.0	9,275.0	9,235.6	107.7	33.7	-67.65	8,119.7	-1,351.7	1,865.6	1,752.5	113.08	16.498	
16,900.0	9,734.0	9,275.0	9,235.6	109.1	33.7	-67.65	8,119.7	-1,351.7	1,804.2	1,687.8	116.36	15.505	
17,000.0	9,734.0	9,275.0	9,235.6	110.5	33.7	-67.65	8,119.7	-1,351.7	1,746.4	1,626.6	119.75	14.583	
17,100.0	9,734.0	9,275.0	9,235.6	111.9	33.7	-67.65	8,119.7	-1,351.7	1,692.6	1,569.3	123.23	13.735	
17,200.0	9,734.0	9,275.0	9,235.6	113.2	33.7	-67.65	8,119.7	-1,351.7	1,643.0	1,516.3	126.75	12.962	
17,300.0	9,734.0	9,275.0	9,235.6	114.6	33.7	-67.65	8,119.7	-1,351.7	1,598.2	1,468.0	130.27	12.268	
17,400.0	9,734.0	9,275.0	9,235.6	116.0	33.7	-67.65	8,119.7	-1,351.7	1,558.6	1,424.9	133.73	11.655	
17,500.0	9,734.0	9,275.0	9,235.6	117.4	33.7	-67.65	8,119.7	-1,351.7	1,524.5	1,387.4	137.05	11.123	
17,600.0	9,734.0	9,275.0	9,235.6	118.8	33.7	-67.65	8,119.7	-1,351.7	1,496.3	1,356.1	140.17	10.674	
17,700.0	9,734.0	9,275.0	9,235.6	120.2	33.7	-67.65	8,119.7	-1,351.7	1,474.3	1,331.3	143.01	10.309	
17,800.0	9,734.0	9,275.0	9,235.6	121.6	33.7	-67.65	8,119.7	-1,351.7	1,458.9	1,313.4	145.50	10.027	
17,900.0	9,734.0	9,275.0	9,235.6	122.9	33.7	-67.65	8,119.7	-1,351.7	1,450.3	1,302.7	147.57	9.828	
17,975.9	9,734.0	9,275.0	9,235.6	124.0	33.7	-67.65	8,119.7	-1,351.7	1,448.3	1,299.4	148.83	9.731 CC	
18,000.0	9,734.0	9,275.0	9,235.6	124.3	33.7	-67.65	8,119.7	-1,351.7	1,448.5	1,299.3	149.17	9.710 ES	
18,100.0	9,734.0	9,275.0	9,235.6	125.7	33.7	-67.65	8,119.7	-1,351.7	1,453.6	1,303.3	150.28	9.673 SF	
18,200.0	9,734.0	9,275.0	9,235.6	127.1	33.7	-67.65	8,119.7	-1,351.7	1,465.5	1,314.6	150.89	9.713	
18,300.0	9,734.0	9,275.0	9,235.6	128.5	33.7	-67.65	8,119.7	-1,351.7	1,484.1	1,333.1	151.01	9.828	
18,400.0	9,734.0	9,275.0	9,235.6	129.9	33.7	-67.65	8,119.7	-1,351.7	1,509.1	1,358.4	150.67	10.016	
18,500.0	9,734.0	9,275.0	9,235.6	131.3	33.7	-67.65	8,119.7	-1,351.7	1,540.2	1,390.2	149.93	10.273	
18,600.0	9,734.0	9,275.0	9,235.6	132.7	33.7	-67.65	8,119.7	-1,351.7	1,577.0	1,428.2	148.83	10.596	
18,700.0	9,734.0	9,275.0	9,235.6	134.1	33.7	-67.65	8,119.7	-1,351.7	1,619.2	1,471.7	147.45	10.981	
18,800.0	9,734.0	9,275.0	9,235.6	135.5	33.7	-67.65	8,119.7	-1,351.7	1,666.3	1,520.5	145.84	11.426	
18,900.0	9,734.0	9,275.0	9,235.6	136.9	33.7	-67.65	8,119.7	-1,351.7	1,718.0	1,573.9	144.06	11.926	
19,000.0	9,734.0	9,275.0	9,235.6	138.3	33.7	-67.65	8,119.7	-1,351.7	1,773.8	1,631.6	142.16	12.478	
19,100.0	9,734.0	9,275.0	9,235.6	139.7	33.7	-67.65	8,119.7	-1,351.7	1,833.3	1,693.1	140.18	13.078	
19,200.0	9,734.0	9,275.0	9,235.6	141.1	33.7	-67.65	8,119.7	-1,351.7	1,896.3	1,758.1	138.17	13.724	
19,300.0	9,734.0	9,275.0	9,235.6	142.5	33.7	-67.65	8,119.7	-1,351.7	1,962.3	1,826.2	136.15	14.413	
19,400.0	9,734.0	9,275.0	9,235.6	143.9	33.7	-67.65	8,119.7	-1,351.7	2,031.1	1,897.0	134.15	15.141	
19,500.0	9,734.0	9,275.0	9,235.6	145.3	33.7	-67.65	8,119.7	-1,351.7	2,102.4	1,970.3	132.19	15.905	
19,600.0	9,734.0	9,275.0	9,235.6	146.7	33.7	-67.65	8,119.7	-1,351.7	2,176.0	2,045.8	130.28	16.703	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 505H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,300.0	9,734.0	9,264.8	9,237.8	114.6	33.1	-67.73	9,009.7	-1,358.4	2,132.8	2,022.7	110.02	19.384	
17,400.0	9,734.0	9,264.9	9,237.9	116.0	33.1	-67.73	9,009.7	-1,358.4	2,060.5	1,947.4	113.03	18.230	
17,500.0	9,734.0	9,264.9	9,237.9	117.4	33.1	-67.73	9,009.7	-1,358.4	1,990.5	1,874.4	116.19	17.132	
17,600.0	9,734.0	9,264.9	9,237.9	118.8	33.1	-67.73	9,009.7	-1,358.4	1,923.3	1,803.8	119.51	16.093	
17,700.0	9,734.0	9,265.0	9,238.0	120.2	33.1	-67.73	9,009.7	-1,358.4	1,859.0	1,736.0	122.97	15.117	
17,800.0	9,734.0	9,265.0	9,238.0	121.6	33.1	-67.73	9,009.7	-1,358.4	1,798.0	1,671.4	126.57	14.206	
17,900.0	9,734.0	9,265.0	9,238.0	122.9	33.1	-67.74	9,009.7	-1,358.4	1,740.6	1,610.3	130.26	13.362	
18,000.0	9,734.0	9,265.1	9,238.0	124.3	33.1	-67.74	9,009.7	-1,358.4	1,687.1	1,553.1	134.02	12.589	
18,100.0	9,734.0	9,265.1	9,238.1	125.7	33.1	-67.74	9,009.7	-1,358.5	1,638.0	1,500.2	137.79	11.888	
18,200.0	9,734.0	9,265.1	9,238.1	127.1	33.1	-67.74	9,009.7	-1,358.5	1,593.7	1,452.2	141.53	11.260	
18,300.0	9,734.0	9,265.2	9,238.1	128.5	33.1	-67.74	9,009.7	-1,358.5	1,554.6	1,409.4	145.17	10.709	
18,400.0	9,734.0	9,265.2	9,238.2	129.9	33.1	-67.74	9,009.7	-1,358.5	1,521.1	1,372.4	148.63	10.234	
18,500.0	9,734.0	9,265.2	9,238.2	131.3	33.1	-67.74	9,009.7	-1,358.5	1,493.5	1,341.6	151.82	9.837	
18,600.0	9,734.0	9,265.3	9,238.2	132.7	33.1	-67.75	9,009.7	-1,358.5	1,472.2	1,317.5	154.68	9.517	
18,700.0	9,734.0	9,265.3	9,238.3	134.1	33.1	-67.75	9,009.7	-1,358.5	1,457.4	1,300.3	157.13	9.276	
18,800.0	9,734.0	9,265.3	9,238.3	135.5	33.1	-67.75	9,009.7	-1,358.5	1,449.4	1,290.3	159.09	9.111	
18,865.9	9,734.0	9,265.3	9,238.3	136.4	33.1	-67.75	9,009.7	-1,358.5	1,447.9	1,287.8	160.11	9.044	CC
18,900.0	9,734.0	9,265.4	9,238.3	136.9	33.1	-67.75	9,009.7	-1,358.6	1,448.3	1,287.8	160.54	9.022	ES
19,000.0	9,734.0	9,265.4	9,238.3	138.3	33.1	-67.75	9,009.7	-1,358.6	1,454.1	1,292.7	161.44	9.007	SF
19,100.0	9,734.0	9,265.4	9,238.4	139.7	33.1	-67.75	9,009.7	-1,358.6	1,466.7	1,304.9	161.79	9.066	
19,200.0	9,734.0	9,265.5	9,238.4	141.1	33.1	-67.75	9,009.7	-1,358.6	1,486.0	1,324.4	161.62	9.194	
19,300.0	9,734.0	9,265.5	9,238.4	142.5	33.1	-67.75	9,009.7	-1,358.6	1,511.6	1,350.6	160.97	9.391	
19,400.0	9,734.0	9,265.5	9,238.5	143.9	33.1	-67.76	9,009.7	-1,358.6	1,543.3	1,383.4	159.90	9.652	
19,500.0	9,734.0	9,265.6	9,238.5	145.3	33.1	-67.76	9,009.7	-1,358.6	1,580.7	1,422.2	158.46	9.975	
19,600.0	9,734.0	9,265.6	9,238.5	146.7	33.1	-67.76	9,009.7	-1,358.6	1,623.4	1,466.7	156.73	10.358	
19,700.0	9,734.0	9,275.0	9,247.2	148.2	33.1	-68.13	9,009.7	-1,362.3	1,671.1	1,516.0	155.06	10.777	
19,800.0	9,734.0	9,275.0	9,247.2	149.6	33.1	-68.13	9,009.7	-1,362.3	1,723.2	1,570.2	152.94	11.267	
19,900.0	9,734.0	9,275.0	9,247.2	151.0	33.1	-68.13	9,009.7	-1,362.3	1,779.4	1,628.7	150.70	11.807	
19,968.0	9,734.0	9,275.0	9,247.2	151.8	33.1	-68.13	9,009.7	-1,362.3	1,819.7	1,670.3	149.42	12.179	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 506H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
18,100.0	9,734.0	9,337.8	9,238.1	125.7	36.0	-67.70	9,879.7	-1,364.0	2,184.7	2,066.9	117.80	18.545		
18,200.0	9,734.0	9,337.9	9,238.1	127.1	36.0	-67.70	9,879.7	-1,364.1	2,110.8	1,989.8	121.05	17.437		
18,300.0	9,734.0	9,337.9	9,238.1	128.5	36.0	-67.70	9,879.7	-1,364.1	2,039.2	1,914.7	124.48	16.382		
18,400.0	9,734.0	9,337.9	9,238.2	129.9	36.0	-67.70	9,879.7	-1,364.1	1,970.1	1,842.0	128.08	15.382		
18,500.0	9,734.0	9,338.0	9,238.2	131.3	36.0	-67.70	9,879.7	-1,364.1	1,903.7	1,771.8	131.84	14.439		
18,600.0	9,734.0	9,338.0	9,238.2	132.7	36.0	-67.70	9,879.7	-1,364.1	1,840.3	1,704.6	135.74	13.557		
18,700.0	9,734.0	9,338.0	9,238.2	134.1	36.0	-67.70	9,879.7	-1,364.1	1,780.3	1,640.6	139.77	12.738		
18,800.0	9,734.0	9,338.1	9,238.3	135.5	36.0	-67.70	9,879.7	-1,364.1	1,724.1	1,580.2	143.88	11.983		
18,900.0	9,734.0	9,338.1	9,238.3	136.9	36.0	-67.71	9,879.7	-1,364.1	1,671.9	1,523.9	148.03	11.295		
19,000.0	9,734.0	9,338.1	9,238.3	138.3	36.0	-67.71	9,879.7	-1,364.2	1,624.2	1,472.1	152.16	10.674		
19,100.0	9,734.0	9,338.2	9,238.4	139.7	36.0	-67.71	9,879.7	-1,364.2	1,581.4	1,425.2	156.21	10.124		
19,200.0	9,734.0	9,338.2	9,238.4	141.1	36.1	-67.71	9,879.7	-1,364.2	1,543.9	1,383.8	160.09	9.644		
19,300.0	9,734.0	9,338.2	9,238.4	142.5	36.1	-67.71	9,879.7	-1,364.2	1,512.1	1,348.4	163.72	9.236		
19,400.0	9,734.0	9,338.3	9,238.5	143.9	36.1	-67.71	9,879.7	-1,364.2	1,486.4	1,319.4	167.01	8.900		
19,500.0	9,734.0	9,338.3	9,238.5	145.3	36.1	-67.71	9,879.7	-1,364.2	1,467.0	1,297.2	169.86	8.637		
19,600.0	9,734.0	9,338.3	9,238.5	146.7	36.1	-67.71	9,879.7	-1,364.2	1,454.3	1,282.1	172.21	8.445		
19,700.0	9,734.0	9,338.4	9,238.5	148.2	36.1	-67.72	9,879.7	-1,364.2	1,448.4	1,274.4	173.99	8.325		
19,735.9	9,734.0	9,338.4	9,238.6	148.7	36.1	-67.72	9,879.7	-1,364.2	1,447.9	1,273.4	174.48	8.299	CC, ES	
19,800.0	9,734.0	9,338.4	9,238.6	149.6	36.1	-67.72	9,879.7	-1,364.3	1,449.3	1,274.2	175.16	8.275	SF	
19,900.0	9,734.0	9,338.4	9,238.6	151.0	36.1	-67.72	9,879.7	-1,364.3	1,457.2	1,281.5	175.70	8.294		
19,968.0	9,734.0	9,338.4	9,238.6	151.8	36.1	-67.72	9,879.7	-1,364.3	1,466.4	1,290.9	175.51	8.355		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 604H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,300.0	9,734.0	9,832.9	9,784.7	100.9	35.1	-90.00	8,119.8	-1,317.2	2,124.0	2,021.4	102.54	20.713	
16,400.0	9,734.0	9,832.9	9,784.7	102.3	35.1	-90.00	8,119.8	-1,317.2	2,046.0	1,940.7	105.27	19.435	
16,500.0	9,734.0	9,832.9	9,784.7	103.6	35.1	-90.00	8,119.8	-1,317.2	1,970.0	1,861.8	108.20	18.207	
16,600.0	9,734.0	9,832.9	9,784.7	105.0	35.1	-90.00	8,119.8	-1,317.2	1,896.3	1,784.9	111.33	17.034	
16,700.0	9,734.0	9,832.9	9,784.7	106.4	35.1	-90.00	8,119.8	-1,317.2	1,825.0	1,710.4	114.65	15.918	
16,800.0	9,734.0	9,832.9	9,784.7	107.7	35.1	-90.00	8,119.8	-1,317.2	1,756.6	1,638.4	118.17	14.864	
16,900.0	9,734.0	9,832.9	9,784.7	109.1	35.1	-90.00	8,119.8	-1,317.2	1,691.3	1,569.4	121.88	13.876	
17,000.0	9,734.0	9,832.9	9,784.7	110.5	35.1	-90.00	8,119.8	-1,317.2	1,629.5	1,503.7	125.75	12.958	
17,100.0	9,734.0	9,832.9	9,784.7	111.9	35.1	-90.00	8,119.8	-1,317.2	1,571.6	1,441.9	129.75	12.113	
17,200.0	9,734.0	9,832.9	9,784.7	113.2	35.1	-90.00	8,119.8	-1,317.2	1,518.2	1,384.3	133.83	11.344	
17,300.0	9,734.0	9,832.9	9,784.7	114.6	35.1	-90.00	8,119.8	-1,317.2	1,469.6	1,331.7	137.94	10.654	
17,400.0	9,734.0	9,832.9	9,784.7	116.0	35.1	-90.00	8,119.8	-1,317.2	1,426.4	1,284.4	141.98	10.046	
17,500.0	9,734.0	9,832.9	9,784.7	117.4	35.1	-90.00	8,119.8	-1,317.2	1,389.0	1,243.1	145.88	9.522	
17,600.0	9,734.0	9,832.9	9,784.7	118.8	35.1	-90.00	8,119.8	-1,317.2	1,358.0	1,208.5	149.52	9.083	
17,700.0	9,734.0	9,832.9	9,784.7	120.2	35.1	-90.00	8,119.8	-1,317.2	1,333.8	1,181.0	152.78	8.730	
17,800.0	9,734.0	9,832.9	9,784.7	121.6	35.1	-90.00	8,119.8	-1,317.2	1,316.8	1,161.2	155.57	8.464	
17,900.0	9,734.0	9,832.9	9,784.7	122.9	35.1	-90.00	8,119.8	-1,317.2	1,307.2	1,149.4	157.79	8.284	
17,975.8	9,734.0	9,832.9	9,784.7	124.0	35.1	-90.00	8,119.8	-1,317.2	1,305.0	1,145.9	159.05	8.205 CC	
18,000.0	9,734.0	9,832.9	9,784.7	124.3	35.1	-90.00	8,119.8	-1,317.2	1,305.2	1,145.8	159.37	8.190 ES	
18,100.0	9,734.0	9,832.9	9,784.7	125.7	35.1	-90.00	8,119.8	-1,317.2	1,310.9	1,150.6	160.28	8.179 SF	
18,200.0	9,734.0	9,832.9	9,784.7	127.1	35.1	-90.00	8,119.8	-1,317.2	1,324.1	1,163.6	160.51	8.249	
18,300.0	9,734.0	9,832.9	9,784.7	128.5	35.1	-90.00	8,119.8	-1,317.2	1,344.7	1,184.5	160.11	8.398	
18,400.0	9,734.0	9,832.9	9,784.7	129.9	35.1	-90.00	8,119.8	-1,317.2	1,372.2	1,213.1	159.13	8.623	
18,500.0	9,734.0	9,832.9	9,784.7	131.3	35.1	-90.00	8,119.8	-1,317.2	1,406.3	1,248.7	157.66	8.920	
18,600.0	9,734.0	9,832.9	9,784.7	132.7	35.1	-90.00	8,119.8	-1,317.2	1,446.6	1,290.8	155.79	9.285	
18,700.0	9,734.0	9,832.9	9,784.7	134.1	35.1	-90.00	8,119.8	-1,317.2	1,492.5	1,338.8	153.62	9.715	
18,800.0	9,734.0	9,832.9	9,784.7	135.5	35.1	-90.00	8,119.8	-1,317.2	1,543.5	1,392.2	151.24	10.205	
18,900.0	9,734.0	9,832.9	9,784.7	136.9	35.1	-90.00	8,119.8	-1,317.2	1,599.1	1,450.4	148.72	10.753	
19,000.0	9,734.0	9,832.9	9,784.7	138.3	35.1	-90.00	8,119.8	-1,317.2	1,658.9	1,512.8	146.12	11.353	
19,100.0	9,734.0	9,832.9	9,784.7	139.7	35.1	-90.00	8,119.8	-1,317.2	1,722.4	1,578.9	143.51	12.002	
19,200.0	9,734.0	9,832.9	9,784.7	141.1	35.1	-90.00	8,119.8	-1,317.2	1,789.3	1,648.4	140.92	12.697	
19,300.0	9,734.0	9,832.9	9,784.7	142.5	35.1	-90.00	8,119.8	-1,317.2	1,859.2	1,720.8	138.39	13.434	
19,400.0	9,734.0	9,832.9	9,784.7	143.9	35.1	-90.00	8,119.8	-1,317.2	1,931.7	1,795.7	135.93	14.211	
19,500.0	9,734.0	9,833.0	9,784.7	145.3	35.1	-90.00	8,119.8	-1,317.2	2,006.5	1,873.0	133.56	15.023	
19,600.0	9,734.0	9,833.0	9,784.7	146.7	35.1	-90.00	8,119.8	-1,317.2	2,083.5	1,952.2	131.29	15.869	
19,700.0	9,734.0	9,833.0	9,784.7	148.2	35.1	-90.00	8,119.8	-1,317.2	2,162.4	2,033.2	129.13	16.745	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 605H - OH - Plan 0.2													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,100.0	9,734.0	9,792.3	9,785.6	111.9	34.9	-90.00	8,955.8	-1,322.6	2,152.3	2,043.6	108.64	19.811	
17,200.0	9,734.0	9,792.3	9,785.6	113.2	34.9	-90.00	8,955.8	-1,322.6	2,073.6	1,962.0	111.59	18.582	
17,300.0	9,734.0	9,792.3	9,785.6	114.6	34.9	-90.00	8,955.8	-1,322.6	1,996.9	1,882.1	114.75	17.403	
17,400.0	9,734.0	9,792.3	9,785.6	116.0	34.9	-90.00	8,955.8	-1,322.6	1,922.3	1,804.2	118.11	16.275	
17,500.0	9,734.0	9,792.3	9,785.6	117.4	34.9	-90.00	8,955.8	-1,322.6	1,850.1	1,728.4	121.69	15.204	
17,600.0	9,734.0	9,792.3	9,785.6	118.8	34.9	-90.00	8,955.8	-1,322.6	1,780.6	1,655.1	125.47	14.192	
17,700.0	9,734.0	9,792.3	9,785.6	120.2	34.9	-90.00	8,955.8	-1,322.6	1,714.1	1,584.6	129.44	13.242	
17,800.0	9,734.0	9,792.3	9,785.6	121.6	34.9	-90.00	8,955.8	-1,322.6	1,651.0	1,517.4	133.59	12.358	
17,900.0	9,734.0	9,792.3	9,785.6	122.9	34.9	-90.00	8,955.8	-1,322.6	1,591.6	1,453.8	137.89	11.543	
18,000.0	9,734.0	9,792.3	9,785.6	124.3	34.9	-90.00	8,955.8	-1,322.6	1,536.5	1,394.3	142.28	10.800	
18,100.0	9,734.0	9,792.3	9,785.6	125.7	34.9	-90.00	8,955.8	-1,322.6	1,486.1	1,339.4	146.70	10.130	
18,200.0	9,734.0	9,792.3	9,785.6	127.1	34.9	-90.00	8,955.8	-1,322.6	1,440.9	1,289.8	151.08	9.538	
18,300.0	9,734.0	9,792.3	9,785.6	128.5	34.9	-90.00	8,955.8	-1,322.6	1,401.4	1,246.1	155.31	9.023	
18,400.0	9,734.0	9,792.3	9,785.6	129.9	34.9	-90.00	8,955.8	-1,322.6	1,368.0	1,208.7	159.29	8.588	
18,500.0	9,734.0	9,792.3	9,785.6	131.3	34.9	-90.00	8,955.8	-1,322.6	1,341.3	1,178.4	162.89	8.234	
18,600.0	9,734.0	9,792.3	9,785.6	132.7	34.9	-90.00	8,955.8	-1,322.6	1,321.7	1,155.7	166.01	7.962	
18,700.0	9,734.0	9,792.3	9,785.6	134.1	34.9	-90.00	8,955.8	-1,322.6	1,309.4	1,140.8	168.52	7.770	
18,800.0	9,734.0	9,792.3	9,785.6	135.5	34.9	-90.00	8,955.8	-1,322.6	1,304.6	1,134.3	170.36	7.658	
18,811.8	9,734.0	9,792.3	9,785.6	135.7	34.9	-90.00	8,955.8	-1,322.6	1,304.6	1,134.1	170.53	7.650 CC, ES	
18,900.0	9,734.0	9,792.3	9,785.6	136.9	34.9	-90.00	8,955.8	-1,322.6	1,307.6	1,136.1	171.47	7.626 SF	
19,000.0	9,734.0	9,792.3	9,785.6	138.3	34.9	-90.00	8,955.8	-1,322.6	1,318.1	1,146.2	171.84	7.671	
19,100.0	9,734.0	9,792.3	9,785.6	139.7	34.9	-90.00	8,955.8	-1,322.6	1,336.0	1,164.5	171.50	7.790	
19,200.0	9,734.0	9,792.3	9,785.6	141.1	34.9	-90.00	8,955.8	-1,322.6	1,361.1	1,190.6	170.51	7.983	
19,300.0	9,734.0	9,792.3	9,785.6	142.5	34.9	-90.00	8,955.8	-1,322.6	1,392.9	1,224.0	168.96	8.244	
19,400.0	9,734.0	9,792.3	9,785.6	143.9	34.9	-90.00	8,955.8	-1,322.6	1,431.0	1,264.1	166.95	8.572	
19,500.0	9,734.0	9,792.3	9,785.6	145.3	34.9	-90.00	8,955.8	-1,322.6	1,475.0	1,310.4	164.58	8.962	
19,600.0	9,734.0	9,792.3	9,785.6	146.7	34.9	-90.00	8,955.8	-1,322.6	1,524.2	1,362.2	161.95	9.412	
19,700.0	9,734.0	9,792.3	9,785.6	148.2	34.9	-90.00	8,955.8	-1,322.6	1,578.2	1,419.1	159.15	9.917	
19,800.0	9,734.0	9,792.3	9,785.6	149.6	34.9	-90.00	8,955.8	-1,322.6	1,636.6	1,480.3	156.25	10.474	
19,900.0	9,734.0	9,792.3	9,785.6	151.0	34.9	-90.00	8,955.8	-1,322.6	1,698.8	1,545.5	153.32	11.080	
19,968.0	9,734.0	9,792.3	9,785.6	151.8	34.9	-90.00	8,955.8	-1,322.6	1,743.2	1,591.0	152.15	11.457	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

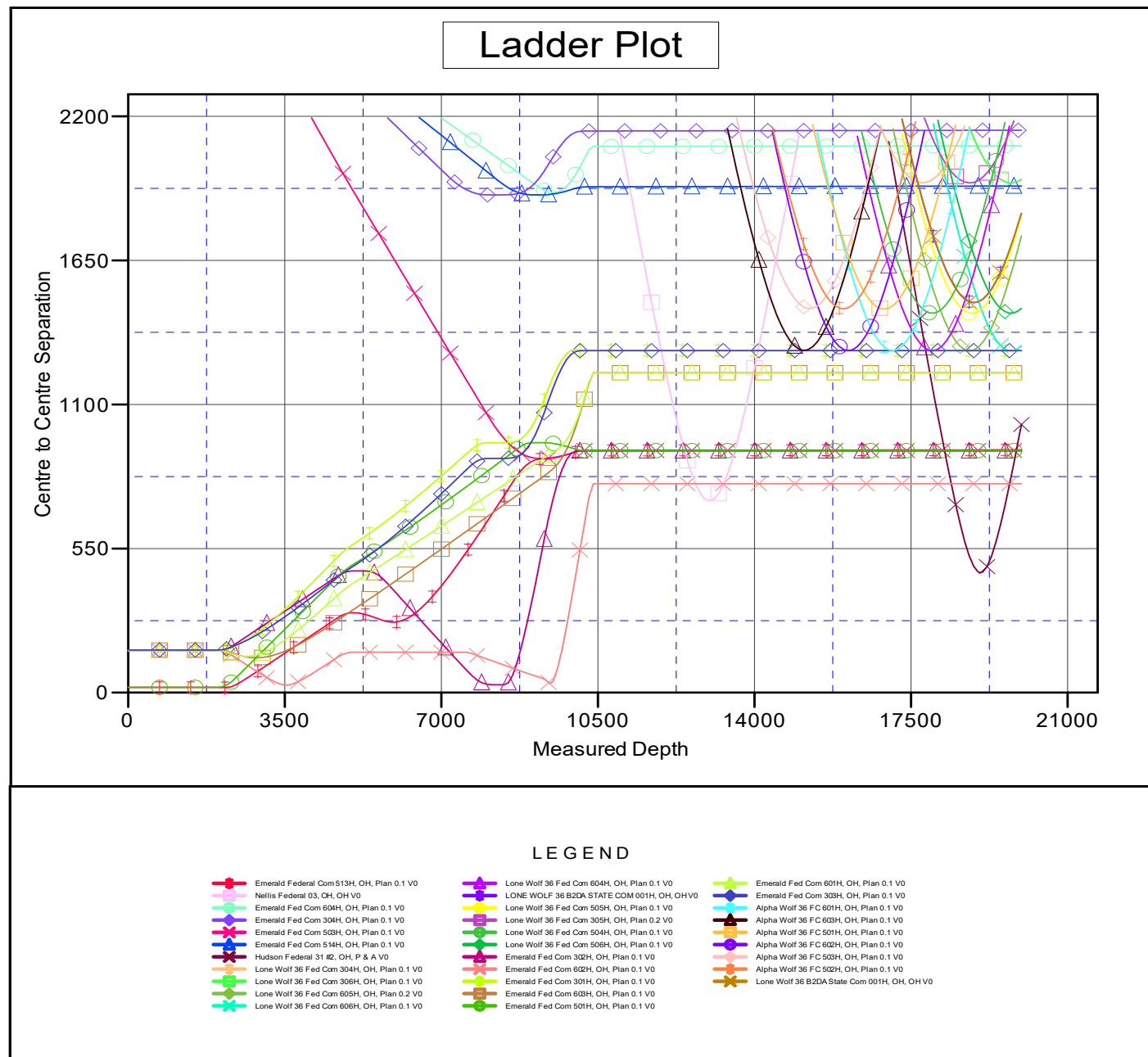
Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 606H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
18,000.0	9,734.0	9,868.2	9,786.7	124.3	37.8	-90.00	9,879.8	-1,328.6	2,171.1	2,054.1	117.02	18.554	
18,100.0	9,734.0	9,868.2	9,786.7	125.7	37.8	-90.00	9,879.8	-1,328.6	2,092.0	1,971.7	120.31	17.388	
18,200.0	9,734.0	9,868.2	9,786.7	127.1	37.8	-90.00	9,879.8	-1,328.6	2,014.8	1,891.0	123.83	16.271	
18,300.0	9,734.0	9,868.2	9,786.7	128.5	37.8	-90.00	9,879.8	-1,328.6	1,939.7	1,812.1	127.58	15.204	
18,400.0	9,734.0	9,868.2	9,786.7	129.9	37.8	-90.00	9,879.8	-1,328.6	1,866.9	1,735.3	131.55	14.191	
18,500.0	9,734.0	9,868.2	9,786.7	131.3	37.8	-90.00	9,879.8	-1,328.6	1,796.7	1,660.9	135.75	13.235	
18,600.0	9,734.0	9,868.2	9,786.7	132.7	37.8	-90.00	9,879.8	-1,328.6	1,729.4	1,589.2	140.16	12.338	
18,700.0	9,734.0	9,868.2	9,786.7	134.1	37.8	-90.00	9,879.8	-1,328.6	1,665.4	1,520.7	144.77	11.504	
18,800.0	9,734.0	9,868.2	9,786.7	135.5	37.8	-90.00	9,879.8	-1,328.6	1,605.1	1,455.6	149.54	10.734	
18,900.0	9,734.0	9,868.2	9,786.7	136.9	37.8	-90.00	9,879.8	-1,328.6	1,549.0	1,394.6	154.42	10.031	
19,000.0	9,734.0	9,868.2	9,786.7	138.3	37.8	-90.00	9,879.8	-1,328.6	1,497.4	1,338.0	159.34	9.398	
19,100.0	9,734.0	9,868.2	9,786.7	139.7	37.8	-90.00	9,879.8	-1,328.6	1,450.9	1,286.6	164.21	8.835	
19,200.0	9,734.0	9,868.2	9,786.7	141.1	37.8	-90.00	9,879.8	-1,328.6	1,409.9	1,241.0	168.94	8.346	
19,300.0	9,734.0	9,868.2	9,786.7	142.5	37.8	-90.00	9,879.8	-1,328.6	1,375.0	1,201.6	173.39	7.930	
19,400.0	9,734.0	9,868.2	9,786.7	143.9	37.8	-90.00	9,879.8	-1,328.6	1,346.7	1,169.2	177.43	7.590	
19,500.0	9,734.0	9,868.2	9,786.7	145.3	37.8	-90.00	9,879.8	-1,328.6	1,325.3	1,144.3	180.94	7.325	
19,600.0	9,734.0	9,868.2	9,786.7	146.7	37.8	-90.00	9,879.8	-1,328.6	1,311.2	1,127.4	183.78	7.135	
19,700.0	9,734.0	9,868.2	9,786.7	148.2	37.8	-90.00	9,879.8	-1,328.6	1,304.6	1,118.8	185.86	7.019	
19,735.8	9,734.0	9,868.2	9,786.7	148.7	37.8	-90.00	9,879.8	-1,328.6	1,304.1	1,117.7	186.40	6.996 CC, ES	
19,800.0	9,734.0	9,868.2	9,786.7	149.6	37.8	-90.00	9,879.8	-1,328.6	1,305.7	1,118.6	187.11	6.978 SF	
19,900.0	9,734.0	9,868.2	9,786.7	151.0	37.8	-90.00	9,879.8	-1,328.6	1,314.4	1,126.9	187.53	7.009	
19,968.0	9,734.0	9,868.2	9,786.7	151.8	37.8	-90.00	9,879.8	-1,328.6	1,324.6	1,137.4	187.25	7.074	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 3700.5usft (Original Well Ele	Coordinates are relative to: Emerald Fed Com 502H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.333334	Grid Convergence at Surface is: 0.34°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 502H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 502H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 3700.5usft (Original Well Ele

Offset Depths are relative to Offset Datum

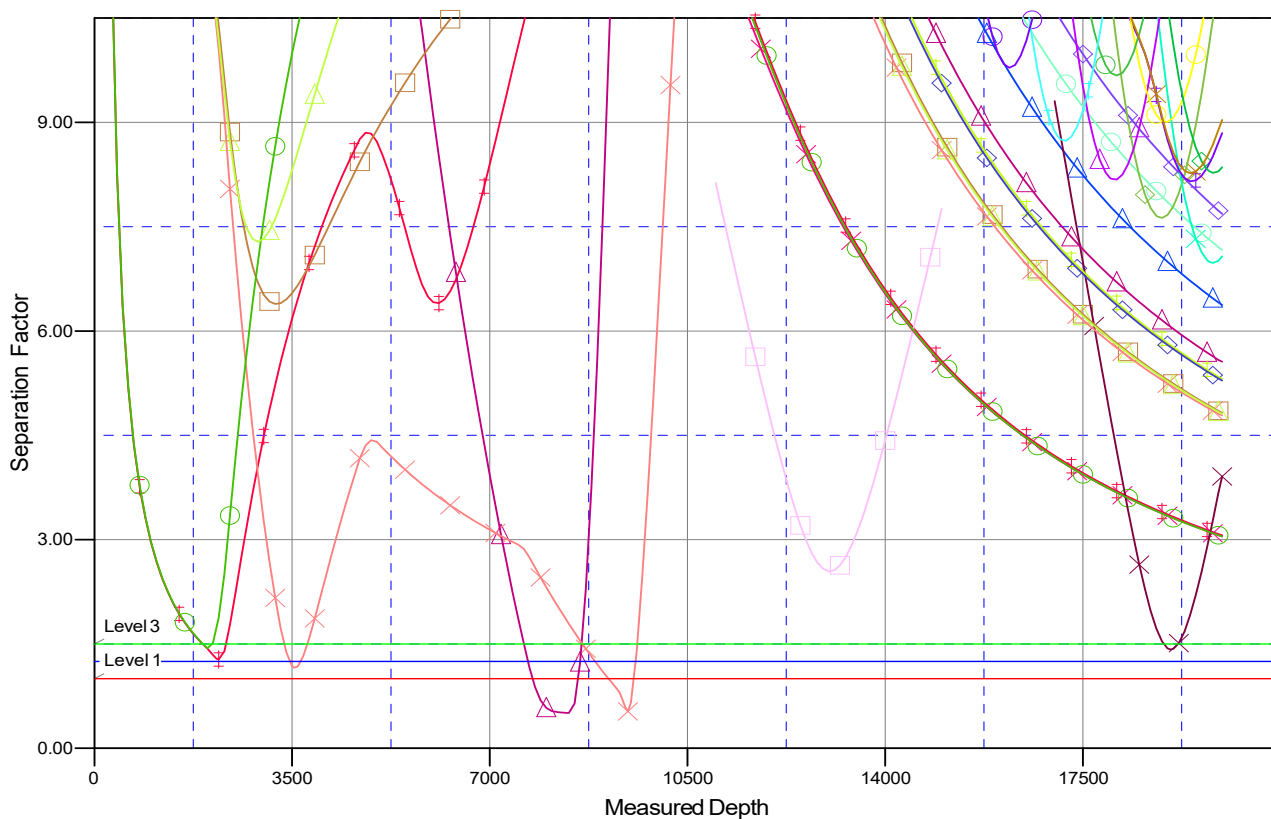
Central Meridian is -104.333334

Coordinates are relative to: Emerald Fed Com 502H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.34°

Separation Factor Plot



LEGEND

Emerald Federal Com 513H, OH, Plan 0.1 V0	Lone Wolf 36 Fed Com 604H, OH, Plan 0.1 V0	Emerald Fed Com 601H, OH, Plan 0.1 V0
Neellis Federal 03, OH, OH V0	LONE WOLF 36 B2DA STATE COM 001H, OH, OH V0	Emerald Fed Com 303H, OH, Plan 0.1 V0
Emerald Fed Com 604H, OH, Plan 0.1 V0	Lone Wolf 36 Fed Com 505H, OH, Plan 0.1 V0	Alpha Wolf 36 FC 601H, OH, Plan 0.1 V0
Emerald Fed Com 304H, OH, Plan 0.1 V0	Lone Wolf 36 Fed Com 305H, OH, Plan 0.2 V0	Alpha Wolf 36 FC 603H, OH, Plan 0.1 V0
Emerald Fed Com 503H, OH, Plan 0.1 V0	Lone Wolf 36 Fed Com 504H, OH, Plan 0.1 V0	Alpha Wolf 36 FC 501H, OH, Plan 0.1 V0
Emerald Fed Com 514H, OH, Plan 0.1 V0	Lone Wolf 36 Fed Com 506H, OH, Plan 0.1 V0	Alpha Wolf 36 FC 602H, OH, Plan 0.1 V0
Hudson Federal 31 #2, OH, P & A V0	Emerald Fed Com 302H, OH, Plan 0.1 V0	Alpha Wolf 36 FC 502H, OH, Plan 0.1 V0
Lone Wolf 36 Fed Com 304H, OH, Plan 0.1 V0	Emerald Fed Com 602H, OH, Plan 0.1 V0	Alpha Wolf 36 FC 502H, OH, Plan 0.1 V0
Lone Wolf 36 Fed Com 306H, OH, Plan 0.1 V0	Emerald Fed Com 301H, OH, Plan 0.1 V0	Lone Wolf 36 B2DA State Com 001H, OH, OH V0
Lone Wolf 36 Fed Com 605H, OH, Plan 0.2 V0	Emerald Fed Com 603H, OH, Plan 0.1 V0	
Lone Wolf 36 Fed Com 606H, OH, Plan 0.1 V0	Emerald Fed Com 501H, OH, Plan 0.1 V0	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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811 S. First St., Artesia, NM 88210
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District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 384427

CONDITIONS

Operator: Avant Operating, LLC 1515 Wynkoop Street Denver, CO 80202	OGRID: 330396
	Action Number: 384427
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	EFFECTIVE DATE FOR SUBMITTING NEW FORM C-102 WAS 08/01/2024. PLEASE SUBMIT C-102 ON NEW FORM.	9/18/2024